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HYGEIA

A JOURNAL OF INDIVIDUAL AND COMMUNITY HEALTH

Published by the American Medical Association

535 N. Dearborn St., Chicago

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November, 1925 *25 Cents*

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A JOURNAL OF INDIVIDUAL AND COMMUNITY HEALTH

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VOLUME 3 NOVEMBER, 1925 NUMBER 11

CONTRIBUTORS OF THE MONTH

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DR. EDWARD JACKSON, western physician, a frequent contributor to HYGEIA, writes about astigmatism. Dr. Jackson is a contributor to many lay and medical publications; he is a member of the Joint Committee on Health Problems in Education.

DR. THOMAS D. WOOD and MARION O. LERRIGO continue their articles on child health. The December issue of HYGEIA will discuss the last topic in this series of articles—health education in the schools. MARGUERITE BIRGE writes about the hard of hearing child and what can be done for him. Miss Birge speaks from the depths of her own experience in writing this article. ELSIE PAISLEY, R.N., is connected with the Pulaski County Department of Education.

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THE DECEMBER ISSUE

THE PLACE OF DRIED FRUITS AND VEGETABLES IN THE DAILY MENU. *By Lulu Graves, honorary president of the American Dietetic Association. Miss Graves wrote in a recent issue of* HYGEIA *on the place of fresh fruits in the diet.*

HUMIDITY IN THE HOME. *By Dr. E. P. Lyon.*

EYESTRAIN: ITS CAUSES AND HOW TO AVOID IT. *By Dr. Cassius D. Wescott.*

HOW TO CARE FOR THE SKIN OF THE GROWING BOY OR GIRL. *By Dr. Herman Goodman.*

Contributions to HYGEIA *are considered, and, if accepted, paid for. Stamps for the return of unaccepted manuscripts should be enclosed. All communications should be addressed to* HYGEIA, *535 North Dearborn Street, Chicago, Illinois.*

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*R*edskins were husking some Indian corn
One October morning before you were born,
When who should arrive here, from over the sea,
But Mr. Columbus; none other than he.

*P*ilgrims were husking some Indian corn
One November morning before you were born,
When spoke one good pilgrim: "Brethren, what say,
Shall we finish this harvest, with Thanksgiving Day?"

*W*hite men will always have Indian corn
To feed many nations and peoples unborn.
Good food for the Redskin; good food for all men,
Is also good food for all healthful children.

Suggestions for Coloring This Page with Crayons

Make the body of the Indian brown and the breech cloth yellow; the arrow sheaf purple with orange color on border of sheaf and head band; tip the feathers with red and blue; make the bow red; the corn yellow with a touch of orange, and the leaves brown and yellow; the growing stalks yellow and green; distant trees blue and lavender.

Exercises for the Business Woman

LYDIA CLARK

MODERN life is making such extreme demands on the nervous energy of business and professional women that it is imperative to control all the forces pertaining to health. Health is an asset of which few of us take cognizance until nature has given us many warnings to take stock of our health budget. But even with repeated warnings, there are many who fail to recognize the stop signal because of the lack of knowledge of the degree and quality of health they may easily possess.

Health may be defined as the state or feeling of well-being in which one is filled with enthusiasm and vigor for both work and play. Ignorance of the fact that there is a positive factor in health has been brought to light very quickly when groups of people have been asked if they considered themselves well, or in good health. The majority of persons in such groups have usually replied in the affirmative. Further inquiries have proved that few of those questioned were free from colds, headaches or minor ailments.

There is a popular notion that health is a negative quality, and that one is in good health unless he is actually confined to bed, or under the care of a physician. Examination and questioning has been a useful means of establishing a truer idea of the meaning and need of a positive health standard, the maintenance of which must make for greater happiness and a richer life.

Better Health for Future Generations

The recent introduction of health teaching into the schools, together with increased interest in developing opportunities for rational physical activities for children and for adults, should produce a more scientific attitude toward health, as well as better developed bodies among the future generations. Unfortunately, many persons are the dupes of quacks, beauty fakers, and "physical culturists," who make extravagant claims for systems that are far from scientific and often dangerous.

Countless physical and mental breakdowns could be prevented if people but realized the great need of securing scientific knowledge regarding the status of their health, instead of attempting to follow some widely advertized system that claims to put them on the road to health, but which is probably without any sort of scientific basis.

A yearly physical examination by a physician is a wise expenditure of money and will enable the individual to plan efficiently a work, play, and rest program; the lack of knowledge so discovered may mean overexertion from indulgence in feats of strength, or nervous strain unfitted for his or her particular organism.

There are no short cuts or easy roads to health, and the systems so often blatantly advocated as a means of gaining health usually fail because they are not based on the laws of hygiene. Sufficient sleep and fresh air, wholesome food, and exercise in the open are the means that nature has provided to develop the human animal. If the person is organically sound, these are the only means known to science today.

Health Regimen

1. Stand and sit correctly.
2. Sleep eight to nine hours with open windows.
3. Drink six glasses of water each day.
4. Exercise one hour daily; if possible, take up some sport.
5. Eat some green vegetable and fruit each day.

6. Evacuate the bowels daily.

7. Have a hobby which will change your mental outlook.

8. Leave your business worries at the office, and learn to play.

9. Relax when sitting or lying down.

10. Have a yearly physical examination.

It is interesting to compare the environment in which man has lived during past ages with present day life. Primitive life demanded strenuous physical activity in the open in order that life might be maintained. Today much time is spent in houses artificially heated, often artificially lighted, and with long hours devoted to monotonous, sedentary occupation.

Consider the relation of the development of the muscular system to the growth and harmonious functioning of the other systems of the body. This points to the vital need of growing children to exercise the large groups of trunk, arm, and leg muscles, because repeated muscular contractions create a demand for activity on the part of the nervous, circulatory, digestive, and excretory organs. Activity does not call for great muscular strength, or the development of knotty muscles, but it does call for a muscular tone and activity and the growth and development that will stimulate all of the vital organs. When such a development is allowed, it is essential that adults plan a health program that will counteract the artificial wear and tear of modern city life.

Dr. Clark Hetherington calls our attention to the fact that children need five hours of big muscle activity every day in order that proper growth and organic vigor may be secured. Adults need at least an hour of daily activity, preferably in the open air, in order to keep fit, and to maintain a vigor which will give energy and power to live efficiently.

For the large majority of people, daily exercises in the open is an impossibility, and must be supplanted by more artificial forms of exercise such as gymnastics. It cannot be too strongly urged that a daily walk of at least an hour be planned in addition to the prescribed exercises, or that some sport be added to the program. While walking, proper carriage and alinement of the body should be maintained, and attention should be given to the following points:

1. Remember that the foot is flexible and that the body weight should be carried from the heel through the arch to the ball of the foot.

2. The weight should be carried toward the outside of the foot. This will prevent a "duck waddle" walk.

3. The body should be made as tall as possible without raising the shoulders.

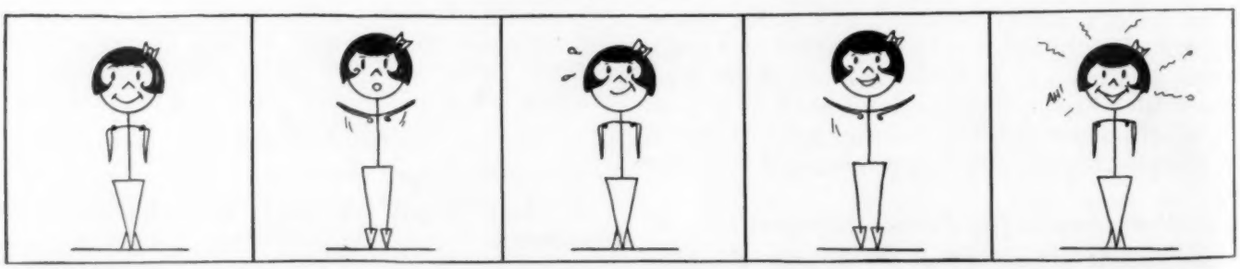
4. When the weight is properly adjusted and a feeling of being tall is maintained, the head, chest, and abdomen will usually fall into a correct position and the "debutante slump" and the "middle age hump" will soon fade into oblivion.

The group of exercises which has been selected here is by no means the only combination which is of value. There are other excellent ones. This group has been selected with the idea of giving the woman who leads a sedentary life some means of exercising the muscles of the torso. A life of much sitting tends to produce lack of muscle tone, chronic constipation and painful periods.

The exercises should be followed from fifteen to twenty minutes daily, preferably in the morning before a shower. They will develop muscle tone and produce organic reaction which will aid in maintaining health.

The Lucky Thirteen Exercises

I. THE ROOSTER (Repeat from 12 to 20 times)



Starting position—Stand with feet parallel and a few inches apart. Bend arms, clench fists, place them on a line with the shoulders, pull elbows in at the sides.

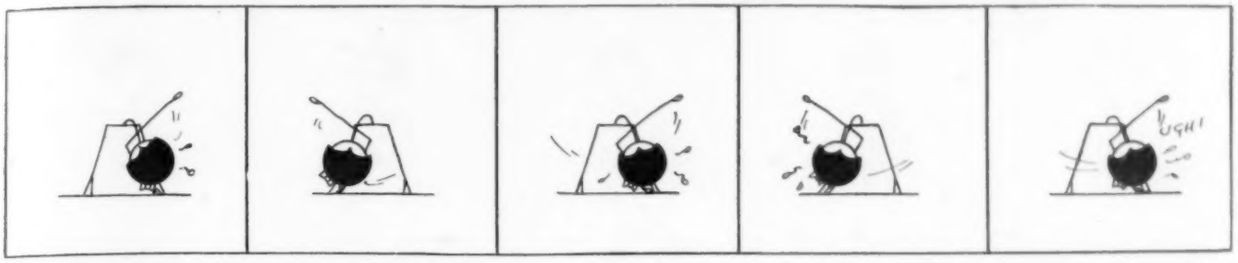
1. Rise on toes and at the same time raise the elbows sideways, outward and above shoulder level, keeping the fists at the shoulders.

2. Lower heels and pull elbows back to starting position. (Keep the weight forward and the body in perfect alignment.)

3. Again! Crow if you want to.

4. The starting position again. (Avoid the debutante slouch of forward head, hollow chest and prominent abdomen.)

II. THE TRUNK TWISTER (If you repeat this 20 times you'll have enough)



Starting position—Stand with feet parallel and about 14 inches apart, and bend the body so that the right hand touches the left toe. The left arm is outstretched on a level with the shoulder.

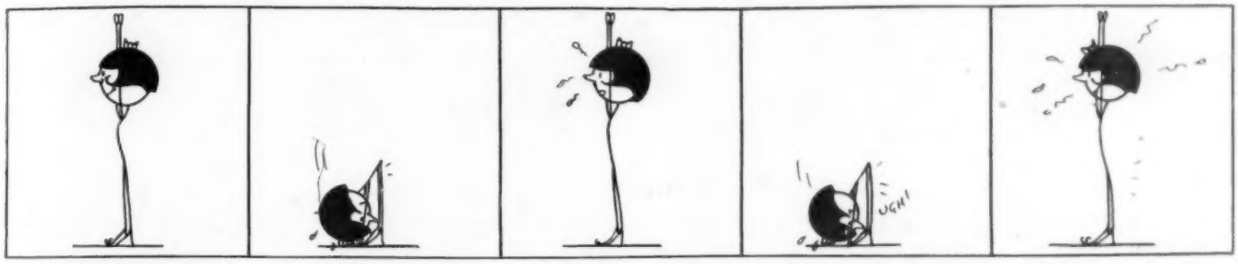
1. Swing the body so that the left hand touches the right toe, and extend the right arm.

2. Now right!

3. Now left!

4. Now right! Ugh is right. (This will take the roll of fat from your tummy.)

III. THE JACK KNIFE (Do this 6 times in succession. Repeat 2 or 3 times)



Starting position—Stand with feet parallel and arms extended over head as if ready to dive.

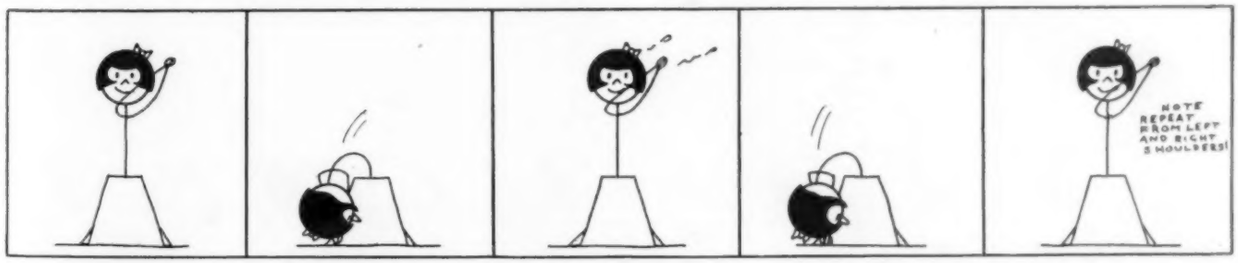
1. Bend forward, keep knees straight, and touch finger tips to the floor.

2. Now up again with hands over head.

3. Now down again! Watch those knees. Do not bend them!

4. Now up again. (Repeat this 6 times before you rest.)

IV. WOOD CHOPPING (Do this 5 times, alternating from right to left shoulder)



Starting position—Stand with feet apart and hands clasped together and above the left shoulder.

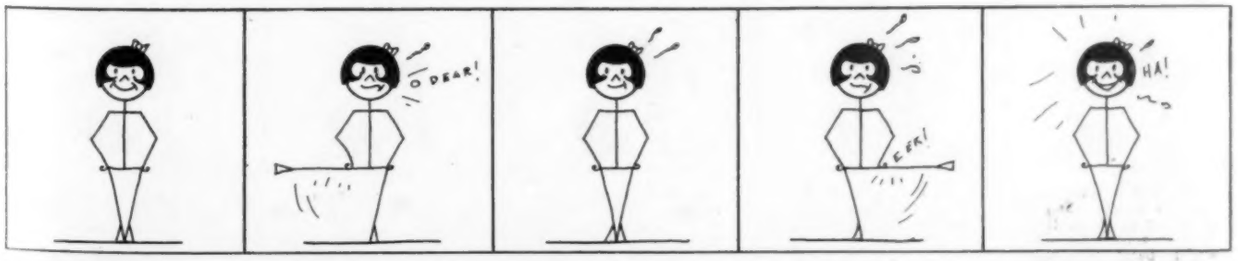
1. Fling the arms forward and downward toward the right toe, bending the trunk, but keeping the knees straight.

2. Straighten the body and return arms to the left shoulder.

3. Down again! Put some snap into it; you'll never get that wood chopped.

4. Up again! (This can be repeated from the left and right shoulders.)

V. LEG FLINGING (Repeat right and left, alternately, from 10 to 20 times)



Starting position—Stand with feet parallel and place hands on hips.

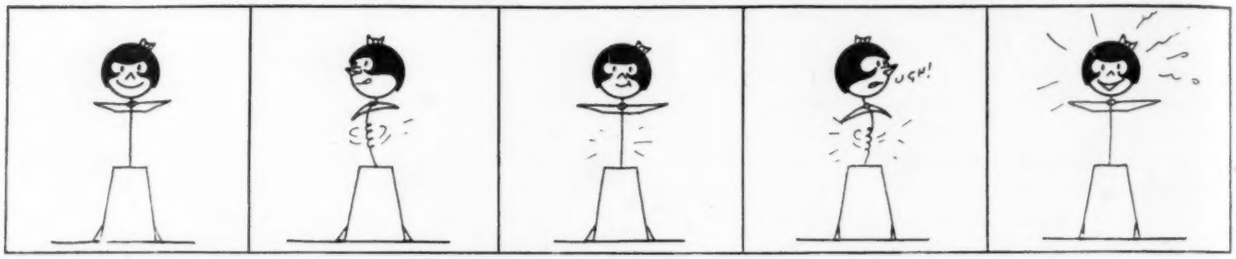
1. Fling the right leg straight out to the side.

2. Return to the starting position.

3. Repeat with the left leg.

4. Now back to the starting position.

VI. THE TWISTER (Repeat 10 to 20 times)



Starting position—Stand with feet parallel and about 14 inches apart. Place hands at the back of the neck with elbows well back.

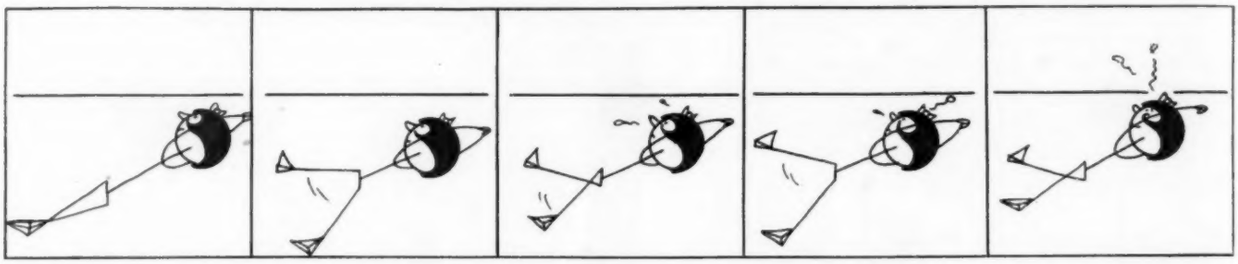
1. Twist the trunk to the right, keeping the movement localized above the hips.

2. Then the starting position.

3. Now twist the trunk to the left. Look pleasant, please!

4. Back to the starting position again, and a few wrinkles taken out of the waist line.

VII.—THE SCISSORS (Do this 5 times lying on one side, then 5 times lying on the other side. Repeat these groups from 4 to 8 times)



Starting position—Lie on the side with the arms extended over the head.

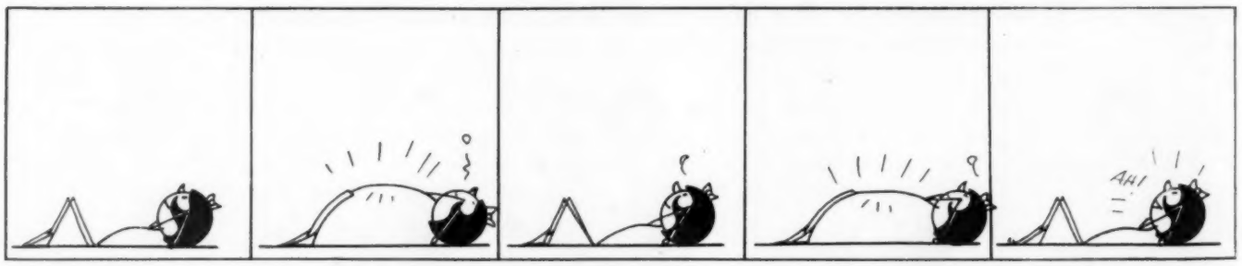
1. Without tensing the muscles, gently swing the legs back and forth from the hips, scissors fashion.

2. Swing.

3. Swing!

4. Swing!! (If you learn to do this well, you can use the same stroke in the water next summer.)

VIII. THE PUMPER (Repeat 5 times; rest; repeat 5 times)



Starting position—Lie on the back with knees bent. Clasp hands under the head.

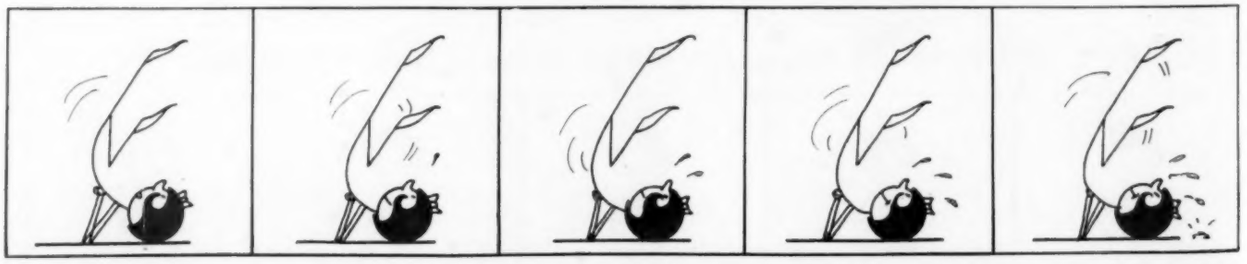
1. Raise the trunk and contract the abdominal muscles.

2. Lower the trunk and relax the abdominal muscles.

3. Again, raise the trunk and contract the abdominal muscles.

4. Now lower the trunk and relax the abdominal muscles.

IX. BICYCLING (Continue rhythmically until tired)



Starting position—Lie on back. Support the back at the waist with hands and bent elbows. Distribute the weight of the body between the elbows and the head.

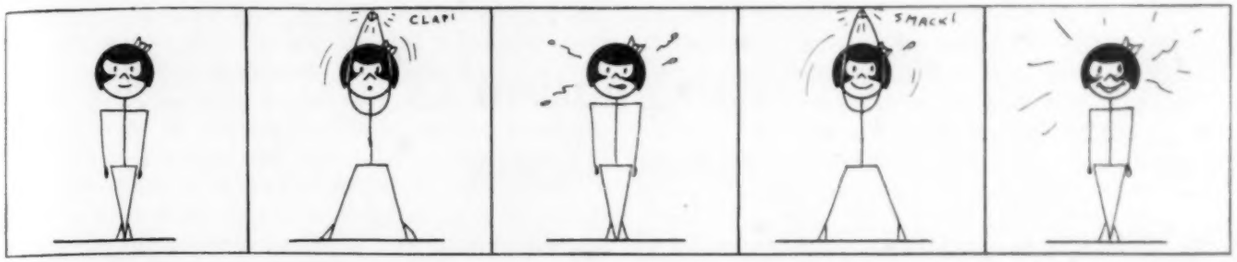
1. Bend and extend the legs alternately, as in bicycling.

2. Now you're going up a hill. Put a little force into the movement.

3. That's better. Keep going in rhythm.

4. Keep on pedaling, the end of the race is in sight.

X. THE JUMPING JACK (Repeat in easy rhythm from 10 to 20 times)



Starting position—Stand erect, hands at sides.

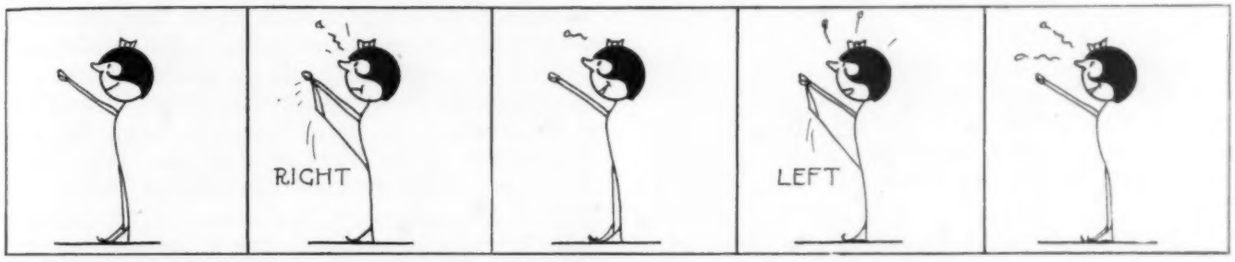
1. Jump and place the feet apart; at the same time fling the arms sideways and upward, and clap the hands together.

2. With a jump return to the starting position.

3. Again jump and clap hands together over head.

4. Jump and return to the starting position.

XI. THE KICKER (Repeat with right and left legs alternately 5 to 10 times)



Starting position—Stand erect with feet parallel and a few inches apart. Extend the arms in front of the body.

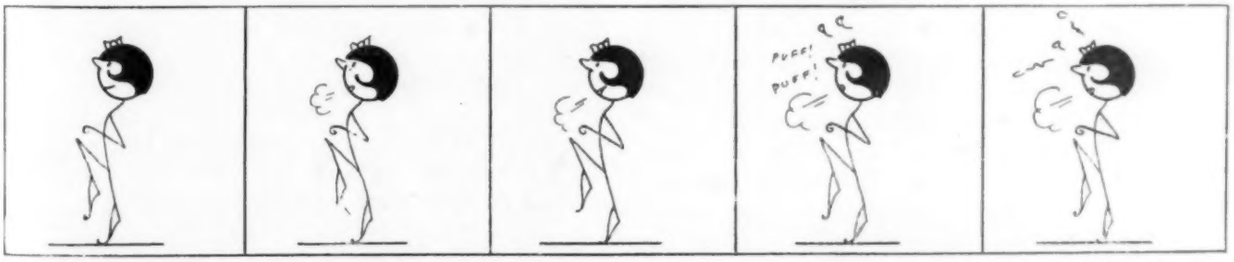
1. Kick the right leg out and up, touching the right palm.

2. Back to the starting position.

3. Now kick the left leg out and up, touching the left palm. (The first hundred years are the hardest.)

4. Back to the starting position.

XII. THE HIGH STEPPER (Repeat from 10 to 20 times)



Starting position—Clench the fists and bend the elbows at the sides.

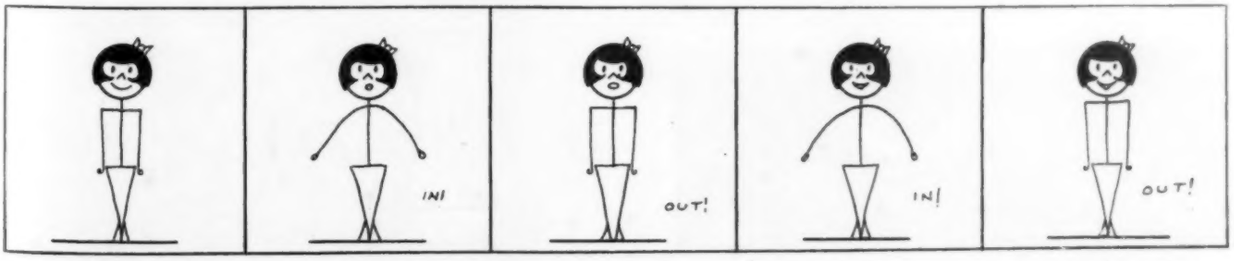
1. Run in place. Right!

2. Left! Raise the knees vigorously.

3. Right!

4. Left! (Steam up. It will do you worlds of good.)

XIII. THE LUNG LESSON (Repeat 10 times. Always end the exercises with this)



Starting position—Attention!

1. Inhale!

2. Exhale!

3. Inhale!

4. Exhale! (The exercises are over, and now for a good shower!)

Astigmatism

EDWARD JACKSON

WHAT is astigmatism? This question is often asked. Our grandfathers never heard the word. A lot of people who have heard it and use it cannot give a good explanation. If you go to the dictionary or the encyclopedia, you may only find that some one thinks he knows what it is, and could tell you if you had studied optics and mathematics. But if you really want to know what astigmatism is, you have to get your wits about you and think a little.

The dictionary will tell you that the word is from the Greek and means "not a point."

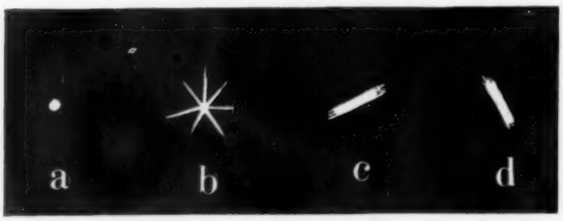
About one hundred years ago George Airy, then a young astronomer at Cambridge, England, found that he did not see stars quite as other people. When he changed the focus of his telescope the star changed shape to him. Airy was a mathematician, so he worked out the kind of defect in the shape of his eye that would make such changes in the shape of a star. If the star was seen perfectly it would look like a point, as stars look in a photograph taken with a good telescope. Most of us see a star as a point with lines of light, or rays, running out from it. The star should resemble a point, but Airy could not see it as a point. Each star looked to Airy like a broad line that ran a certain direction one time and at right angles to that direction another time. His friend William Whewell, also a teacher in the University of Cambridge, suggested for this defect the name astigmatism. Stigma is the Greek word for point, and the "a" before it has the meaning "not."

What Airy found was that the surfaces of his eye curved differently in different directions. This was the defect in his eye that kept a point from looking like a point.

If you take a magnifying glass and hold it in the sun you find the light from the sun is turned or focused by the glass to a little bright circle. This you can see on a piece of paper held the right distance from the glass. If you take the light from a star or from an electric arc lamp, which really is a point, this light will be focused to a point. Focus is the Latin word for point.

A glass lens that focuses has a curved surface. Its surface curves equally in all parts and in all directions. In an eye that has astigmatism, as Sir George Airy's eyes, the surface of the eye that should focus the light coming into it does not curve equally in all directions. It curves more in one direction than in another, as the surface of an automobile tire, the edge of a watch, or the bowl of a spoon. When light strikes a curved surface, like that of an eye or a magnifying glass, it is focused. The shorter the curve of the surface, the more quickly it is focused. The flatter the curve of the surface, the farther away the focus will be. So a curve that is flatter in one direction (as the direction parallel to the face of the watch or the spokes of the automobile wheel) will focus the light farther back in the eye than the curve that is at right angles to that.

This may be understood better by looking at *figure 1*. Imagine that the upper curve *A* represents the curve of the cornea from above downward, and *B* the curve of the cornea from side to side. Then the parallel lines on the left represent rays of light going into the eye, and the lines to the right of the curve the same rays turned so that they will be focused.



How a star appears: (a) to a perfect eye; (b) to most eyes; (c) and (d) the appearances to Sir George Airy's right eye.

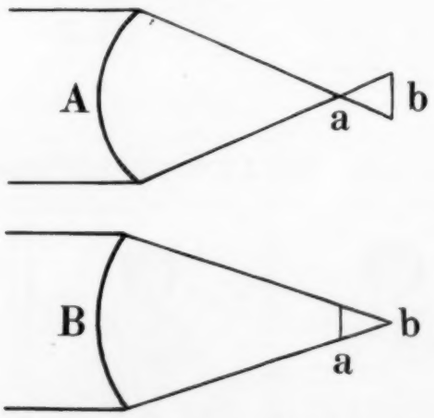


Figure 1 shows how light is imperfectly focused in astigmatism: (A) strong curve focusing the light at (a); (B) weak curve focusing the light at (b).

The shorter vertical curve, *A*, brings them more quickly together, while *B* turns them less so they go farther into the eye before they meet. Consequently they never do get together at a single point, but make one line at *a* and another line at *b*. The way a star will look to such an eye depends on which line falls on the sensitive film at the back of the eye—the retina.

If you find this explanation of astigmatism hard to understand, you will know why so many people do not understand it. It is much easier to imagine what is going on in the eye if you can get a convex lens that some one wears for astigmatism. Take a small bright light far enough away, and hold a card where the lens will focus the light on it. Place the card at different distances so that the light concentrated on it will take different shapes. At one position it will form a line running a certain direction, and at another distance from the lens a line running at right angles to the first. Even an ordinary spherical lens will show this if the lens is held obliquely to the light. Holding the lens obliquely makes it astigmatic.

Effects and Tests of Astigmatism

A lens that perfectly focuses light should take all the rays of light that fall on it from one point and bring them together at another point. Astigmatism prevents this, whether it is a defect in a glass lens or in the surfaces of the eye. The best that can be done by a lens or an eye that is affected by astigmatism is to turn the rays so that they come together in a line. When they are brought together in one direction, they are spread out in the other at right angles to it. When brought together in the second direction, they are spread out in the first. This prevents the eye from seeing clearly lines that run in any but one direction. When the eye is adjusted to see vertical lines most clearly, horizontal lines will be most blurred. When it is adjusted to see horizontal lines clearly, vertical lines will be most blurred.

This fact is used in testing eyes for astigmatism. A chart is made, like that in *figure 2*, with lines running in different directions. In an eye free from astigmatism, all the lines on the chart are equally broad and equally distinct, as represented in this figure. But when such a chart is looked at by an astigmatic eye, some of the lines look clear and others more or less blurred, as in *figure 3*. The lines most blurred are at right angles to those that look most clear. By changing the lens before the eye, or changing the adjustment of the eye itself (what is called the accommodation of the eye), or changing the distance of the lines from the eye, first one set of lines can be made clear and then the other. It was in this way that Thomas Young first noticed, in 1801, the little astigmatism in his own eye, which he had considered normal. By measuring the distances at which he could see lines clearly, held first in one particular direction and then at right angles to the first direction, Airy measured how much astigmatism he had.

Why Astigmatism Is Harmful

The world around us presents lines running in every direction. All of these we want to see at once and clearly. An eye that is free from astigmatism does this without special effort. One with astigmatism cannot do this. The best it can do is to see some lines clearly at one time, and others best at another time; or to make a compromise and see them all equally blurred. Instinctively, we try to see the best we can. This often makes it necessary for an astigmatic eye rapidly to vary its accommodation, so that the lines running one way can be seen clearly, and then the lines running at right angles can

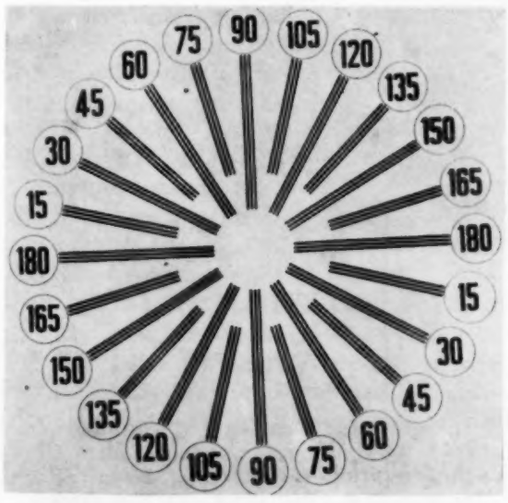


Figure 2 shows a chart to test astigmatism as seen by an eye free from astigmatism.

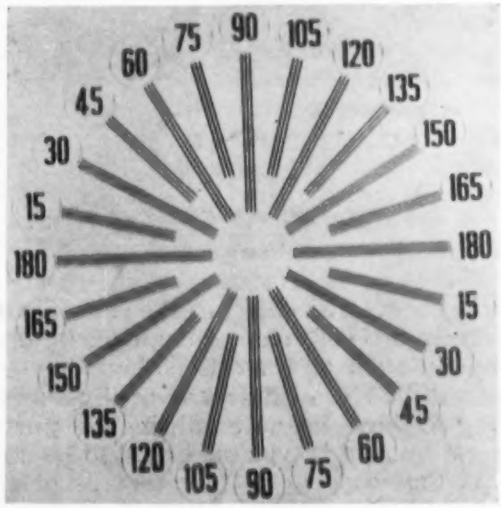


Figure 3 shows the same chart as seen by an eye with moderate astigmatism.

be seen. Or the astigmatic eye studies out the details looked at with all the lines somewhat blurred. This increases the work the eyes have to do. Still more it increases the work of the parts of the brain which control the eyes.

Looking with astigmatic eyes makes their possessor tired sooner than looking with eyes free from astigmatism. This tired feeling is not like the weariness of walking, running, or doing hard physical work of any kind. It is a nerve tire, which is very apt to be felt as headache, dizziness, or nausea. It may be car-sickness, general exhaustion, a sense of strain, or nervous irritability that slowly increases when one continues to use his eyes. Mental disturbances, melancholia, or seizures like those of epilepsy, difficulty about sleeping and general impairment of health are manifestations in some cases of the nerve strain that comes from using eyes that have astigmatism. When one tries to put down all the symptoms that may be caused by astigmatism and relieved by correcting it, he is strongly reminded of the lists in patent medicine almanacs, or the advertisements of kidney "cures."

Such harmful effects are not proportioned to the amount or degree of the astigmatism, but depend on the amount and difficulty of the eye work done, the conditions under which it is done and the general health and strength of the possessor of the eyes. A person with tuberculosis may have a great deal of trouble from a small amount of astigmatism, and need to have a change of glasses for the slightest change in the astigmatism. But when good general health has been regained, the glasses may be entirely discarded. One who has been troubled while working by a poor light may get relief either from glasses or a better light. A seamstress or bookkeeper may feel no need for glasses if the occupation is changed to housekeeping or farming. Men who served in the field during the war could go without glasses they had to wear for office work.

The same symptoms can arise from many causes. This is one reason why it is necessary to have a physician who will consider all the possible causes and make a survey of the situation before prescribing glasses.

Correcting Astigmatism

To correct astigmatism the shape of the surfaces of the eye that focus the light entering it is not changed. The shape of the cornea, which is generally at fault, can be changed by operation, but in such an operation there has to be considered the risk of defective healing, and the resulting failure to accomplish the purpose. An operation of this type ought not to be undertaken if the wearing of glasses will give the same relief. Then, too, an operation cannot be so nicely adjusted as to correct exactly a moderate fault of curvature. It is never to be thought of except to lessen an astigmatism that is of such a high degree that glasses can only partly correct it. When an operation for astigmatism is successful, glasses must still be worn to get the best result. Often they must be quite strong glasses.

This is what is generally meant by correcting astigmatism. Before the eye a glass is placed which has such curves that the glass and the eye together can focus perfectly the light entering them. The curves of the glass differ in different directions and in such a way that they make up for the differences in the curves of the eye. The combination is able to focus the light that comes from any point outside the eye to a point on the sensitive retina in the back of the eye, thus giving a distinct image of lines running in every direction. This correction does not alter the faulty curves of the eye, but alters the direction of the light entering through the eye's refracting surfaces, so that the eye can focus the light perfectly. Such a lens is generally a cylindrical lens that turns the light in only one plane.

How this is done may be understood from *figure 4*, which resembles *figure 1*, except that the correcting lens is added. The lens *L*, placed in front of the eye, has no curve in the direction *A*, but acts in that direction as a plane glass, such as would be used in a window or mirror. Hence the focus *a* remains just where it was before any lens was placed before the eye. But in the direction *B* this lens has a convex curve, which turns the light somewhat toward a focus, so that when the light is also turned by the weaker (flatter) curve of the eye, the two together bring it to a focus just as far back of the cornea as *a* is. That is, the light is focused both ways at the same point. When the light is thus focused in the two directions at right angles to each other, it is focused in all directions to a

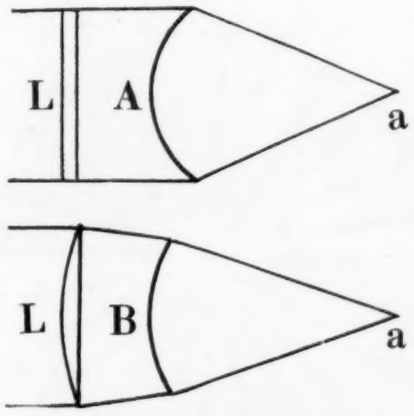


Figure 4 shows how a cylindrical lens (L) corrects astigmatism. In the direction of the strong curve (A), it acts as a plain glass. In the direction of the weak curve (B), it converges the light, so that both curves turn it toward the same point (a).

single point. The astigmatism is corrected, although the curves of the eye that cause it are not.

It is evident that if the curve was added in the direction of *A*, instead of *B*, *a* would be brought nearer the cornea than in *figure 1* while *b* would remain at the same distance, the two points *a* and *b* would be farther apart and the astigmatism would be twice as great as it was originally. The correcting lens for astigmatism must be of the right strength; it must also be turned in exactly the right direction. If these two rules are not followed, the lens will make matters worse.

Glasses for astigmatism should be worn all the time that the eyes are open and in use. Astigmatism is not like nearsightedness, which affects the seeing only beyond a certain distance from the eye. It is not like farsightedness, which handicaps the eye chiefly for seeing near objects. It affects equally the seeing of lines whatever their distance. Without correcting glasses, the eye partly makes up for astigmatism by constant readjustment. This becomes a habit that is difficult to give up when glasses are put on, and makes them not wholly satisfactory at first. When glasses have been worn some time, the better way of using the eye—the giving up of the peculiar straining of the eye to overcome the astigmatism—becomes habitual and the easy thing to do. But when glasses are left off, the eye goes back to its old way of straining so as to see better. Leaving the glasses off one quarter of the time the eyes are used may neutralize all the good the glasses can accomplish if worn the other three quarters of the time.

This article is about regular astigmatism. (When the word astigmatism is used alone, regular astigmatism is meant.) There are other conditions that interfere with a point being seen as a point. These cause what is called irregular astigmatism. One type causes the eye to see the rays that run out from a star. This is as it appears to most eyes when the pupil is dilated at night. Other kinds of irregular astigmatism make the moon look double, or appear as three or more moons. Other defects that are classed as irregular astigmatism cause distortions of things looked at. Irregular astigmatism cannot be corrected by glasses.

The Death of Henry Rose Carter

ON SEPTEMBER 14, Dr. Henry Rose Carter, assistant surgeon general in the United States Public Health Service, died at his home in Washington, D. C., at the age of 73 years. Readers of HYGEIA will remember two articles by him in issues of January and February, 1925, in which he recorded personal experiences in preventive medicine and provided a true picture of some of the romantic incidents in the life of a public health official.

Dr. Carter's work took him all over the world. In 1916 he went to Central and South America as a member of the Rockefeller Foundation's Yellow Fever Commission. He was sanitary adviser to the Peruvian government; he was called on by nations everywhere for accurate information concerning the spread of malaria and yellow fever.

Immediately following his graduation in medicine, Dr. Carter entered the United States Public Health Service and continued constantly with that organization until his death. In 1900 he published a paper recording some observations that he made in 1898 on the interval between infecting and secondary cases of yellow fever. At that time he was located in a small community in the South. A case of yellow fever came to his attention and a few days afterward other cases developed in the same family. Dr. Carter studied the time required for the development of these secondary cases and made a report on the subject. It was this report that led Dr. Walter Reed, head of the United States Yellow Fever Commission, to the series of experiments which resulted in incriminating the mosquito as the important factor in the spread of this disease. It was this observation also and the preventive methods resulting from it that led Sir Ronald Ross to recommend Dr. Carter for the Nobel prize in 1904.

Recognition was given to him by our own government when he was commissioned assistant surgeon general by a special act of Congress in 1915.

The equipment which children use should involve the use of big muscles. Writing on the blackboard is preferable to writing with a pen or pencil.

Care of the School Child's Health

III. Building and Managing a School

THOMAS D. WOOD AND MARION O. LERRIGO

THE school child is examined once a year; he is weighed once a month, but some health requirements must be met every day. The school building to which the child goes each day must be hygienically built and equipped. The day's program of school work, the methods of teaching in the classroom, and the moral atmosphere of the school must be healthful. The child should not only learn through his daily experiences at school how to live a healthful life, but he should also be inspired with the desire to live a healthful life.

Parents may best exert their influence and aid by cooperating through the agency of the local Parent-Teacher Association. When a new school is to be built this organization offers the best means of informing the parents of the plans under consideration, and giving them an opportunity to make suggestions.

There are certain quite definite requirements which the school building, equipment and grounds must meet if they are to promote the health of the school children.

Selecting the Neighborhood

The location of the schoolhouse is the first point to be considered. Unfortunately, there is only one time when deliberation can accomplish much in this respect, and that is before the schoolhouse is built.

Board of education building rules read: "The school site must be accessible, well drained, quiet, and safe."

Ordinarily, the schoolhouse should be not more than a mile and a half from the most distant home. This rule does not apply in rural districts, especially where the consolidated schools are in operation and where pupils are transported five or six miles from home to school in automobile busses.

Drainage of the school site is an engineering problem, and expert opinion should be obtained before a site is finally chosen. Traffic congested boulevards, and railroad crossings are danger points which should be avoided; they are sources of undesirable noise.

A site should be chosen which provides generous space for playgrounds. The usual standard is that there should be from fifty to two hundred square feet of playground per child.

Planning the Schoolhouse

The schoolhouse should be planned by a skilled architect who is familiar with the best standards of school construction. Lighting, heating, ventilating and fireproofing are the outstanding problems of hygienic construction. Most of the standards discussed regarding these points are applicable to rural schools, particularly to consolidated rural schools, as well as to city schools. There are many technical details involved. A few principles may be stated to guide the parent who visits the school and who is curious to know whether the building and equipment is safe and healthful for the children. This should be of interest to parents.

The best standards of lighting for schools advocate windows of good width, extending to the ceiling, or as close as possible, and arranged so as to permit light to reach the pupils from the left. As a general rule, windows should be on only one side of the room.

Artificial light should be installed so that the source of light does not shine directly into the eyes.

Fresh Air

Recent opinion is in favor of the simple open window type of ventilation, as opposed to the complicated systems which have been installed in the past. Some of the beneficial qualities of fresh air are lost in the elaborate processes of heating, moistening, circulating and recirculating which ventilation devices call for. Dr. C.-E. A. Winslow, chairman of the New York State Commission on Ventilation, makes the following statements regarding the requirements for successful window ventilation:

"In order that the system of window ventilation may be satisfactory, there must be ample heat supply through radiators placed below the windows. The heat supply in these radiators must be carefully controlled either by hand or by thermostat. Window boards or deflectors should be used to impart an upward direction to the incoming air. Panes of glass, one foot high, set in the window sash, or a deflector made of parallel curved vanes may be used. There must be openings in the inside wall of the classroom, having at least eight square feet in diameter in all, leading into air ducts through which the heated air of the room can find its way out. This is the 'gravity exhaust duct,' which must be provided for successful window ventilation. There is no need of a suction fan in this duct, as it works against the success of the system. The ducts should have aspirating cowls on the roof and should be provided with dampers to control down-drafts. Without these gravity exhaust ducts, window ventilation is successful only in mild weather when inside doors and transoms are opened.

"The room must not be overcrowded, for overpopulation mitigates against the success of window ventilation. In the average sized classroom there should be no more than 39 second grade children or 30 sixth grade children. There should be a thermometer in the room so that overheating can be avoided. A temperature around 67 degrees F. is most agreeable. Window shades should be so attached as to avoid flapping."

The standards of desirable air conditions for the schoolroom are as follows:

1. "The temperature should not be above 68 degrees Fahrenheit when the outdoor air is cooler than this.
2. "There should be sufficient movement of air to give circulation without cold drafts.
3. "The air should be clean and free from all avoidable dust and unpleasant gases or odors, either from nearby industries or from unclean bodies and clothing of pupils.
4. "Slight changes of temperature, even of one to three degrees, provide a useful tonic effect upon the body.
5. "The air should have as much of the outdoor quality as possible."

To Save Lives

Adequate fireproofing of schools is a necessity. It has been demonstrated by far too many tragedies. Complete fireproof construction involves concrete floors. But since concrete floors give rise to injurious dust, they should be covered. The best method is to lay a flooring of well matched hardwood boards over the concrete. In the kindergarten and lower primary grades battleship linoleum makes the best flooring.

Cleanliness in the School

The schoolhouse should be kept as clean as a first class housekeeper in the community keeps her home. No lower standards of school housekeeping should be accepted.

Sanitary facilities—toilets, washrooms, showers, and drinking fountains—should be adequate to provide for the number of children in school. The fixtures should be simple, not easily broken or put out of order, and easily cleaned. Toilets for boys and girls should be separate.

To provide satisfactory sanitary arrangements for rural schools is much more difficult than to provide them for city schools. However, a great deal of experimentation in problems of rural life is being carried on by the U. S. Public Health Service, and new methods of building make the rural school as sanitary as the city school. Screening of windows, construction of safe sanitary wells, provision for sanitary containers for drinking water, and individual or paper cups, construction of sanitary toilets, are within the possibilities for every rural school.

In some respects the janitor is a far more important person than the principal, for he is responsible for maintaining a sanitary and healthful condition about the school. Some schools have realized this, and now employ a custodian rather than a janitor.

In planning the schoolhouse, it is wise to set aside space for health service rooms. This facilitates the work of the school nurse and school doctor, and is a necessary factor in maintaining an efficient health service.

Sit Up Straight

In equipping the schoolrooms, healthfulness should be considered. Pupils still spend most of their time sitting down in many schools. It is important that seats should encourage correct posture and should be of a height that permits

the pupil easily to rest his feet flat upon the floor, with the knees bent at right angles.

"The chair seat should be so shaped that the pupil will not easily slide forward; the chair back should support the back so that the child may comfortably avoid slouching or slumping; the desk should be low enough to permit him to write in a comfortable position, but high enough to permit the correct position of foot and knee."

Desks should be of dull finish. The top of the desk should be slanted about fifteen degrees.

Managing the School Child

Even more important than the school build- is what happens to the child during the hours he spends in it.

What is the social and moral atmosphere of the schoolroom? Is it one of autocratic, rigid, Prussian repression, or do the pupils live in a school atmosphere of democracy, self-discipline, self-control, and unselfish regard for their fellow pupils? The teacher who is the autocrat of the schoolroom not only antagonizes her pupils and fails to develop in them the desirable qualities of good citizenship, but she is a distinct menace to the mental health of her pupils. As Dr. William Burnham says: "Two fundamentally different methods of discipline are used. One forbids wrong doing definitely. It aims to make regulations and prohibitions so concrete and explicit that a child may never be uncertain what to do.

"The second method is based on the belief that moral development comes only by taking moral responsibility and by án individual's own moral self-activity. . . . Self-control and the child's moral decision about his own problems are worth more than any code of rules and regulations."

One of the keystones of mental health is to do a great many useful things. Real self-control comes from desirable expression. The child who is busy with useful, enjoyable tasks all day has no time, energy, or attention for mischief.

The teacher should use all the methods which modern psychology has put at her disposal for helping the child learn more quickly, more efficiently, and with less confusion than her pupils' parents learned. Modern psychological studies have shown that children suffer from many peculiar mental twists that hinder school progress, and may interfere with mental health. The teacher should be informed of all methods by which these peculiarities may be discovered and overcome.

The equipment which the child uses should be suitable. Young children should be permitted to read only large print. All books should be printed on white or slightly creamy, dull surface, opaque paper. Children in kindergarten and lower grades should write with crayons or large, soft lead pencils. Writing on the blackboard is preferable for children. The young child does not have sufficient nervous control of his muscles to enable him to hold a pencil of ordinary size and make the movements required in such a complex action as writing. Then, too, there is considerable eyestrain involved in watching the fine point of an ordinary pen or pencil. The strain of learning to write should not be increased by the needless difficulty of using inappropriate tools.

None of the handwork done by children should involve the use of fine or delicate tools. Fine sewing strains both eye and finger muscles, and is unsuitable for young children.

How Many Hours a Day?

It is impossible to set a uniform standard for the length of the school day, because the influence upon the health of the child depends upon the kind of school, and the activities in which the pupils engage, as well as upon the number of hours in school. If the school is of the conventional type in which the children spend most of the time seated at their desks, it is probable that children in the primary grades should not be at school more than two and one-half or three hours, and older children not more than four and one-half or five hours daily.

Children need more physical freedom and liberty of movement, more outdoor play in the sunny part of the day, and more practice in manual skills than the present sedentary school program affords. A school which gives the child a healthful regimen of play and work, activity and rest, stimulation and repose, may have a seven or eight hour day, where the conventional school should have but a four or five hour day.

The Noon Hour

Adequate time should be allowed for the noon recess. If children go home for dinner, they should be allowed time to go and come, to eat unhurriedly, and to rest a few minutes after eating. One and one-half hours is needed. If luncheon is served at school, forty or forty-five minutes should be allowed for the meal period.

Many of the large city schools operate a cafeteria which meets the need for a shorter luncheon period. The problem is more difficult in rural schools but not insurmountable. The value of a hot dish at noon warrants considerable expenditure of money and effort. In some rural schools, the older girls are responsible for preparing the hot dish for the noon meal, as a part of their work in cookery or home economics. In small schools it is sufficient to provide one hot dish. Soup, cocoa, creamed beef, or baked beans can be served and the pupils can bring sandwiches and dessert.

The closing article in this series will be a part of the December issue. It will deal with the latest developments in teaching health. Health education has been the last phase of the health program to receive the serious attention of educators. At present it is one of the most prominent and most promising aspects of the health program in schools.

A Little Child's Defective Hearing

MARGUERITE S. BIRGE

Petkin was thought to be unusually devoted to her mother.

OF THE many homes in many lands expecting babies that night, Petkin was brought to one of the finest—an average American home.

Why should a legacy of fear come from such an environment? Why, when she reached what should have been mature power and strength, was Petkin handicapped with poor physical health, a worn-out nervous system and a neurotic mental condition?

The real reason was that Petkin passed through her childhood days with defective hearing. Every one with whom she came in contact was either unaware of her trouble, or chose to ignore it. The mastoid operation, which was necessary in order to save her life, but which partly destroyed her hearing, occurred when Petkin was two years old. Therefore, she had not the least idea that the nonunderstandable points she met were plain to other people, or that their hearing was a different matter from hers. The clearness of the speaker's voice, the distance from her better ear, climatic conditions, colds and, through the years, a slow but gradual improvement in the hearing as the shock of the operation wore away, all these factors made Petkin's hearing such a variable matter that no one realized how much she did miss and what a vague world of worry surrounded her.

There was a Christmas morning years ago when father played Santa Claus. Petkin had a severe cold, but she knew nothing of the effect a badly congested head has on hearing and general mental efficiency; she did not realize that her cold was causing her to be dizzy and deaf. She just felt confused, worried and scared.

Petkin was at all times almost totally deaf to low vibrations; she never heard a footstep. Because she had always heard better in one ear than the other, she had no sense of location of sound. Her evident nervousness when a person spoke unexpectedly or walked into the room behind her was considered by her family a lack of self-control. She was scolded and made to feel ashamed for acting so foolishly. Her nonresponsiveness was considered inattention, obstinacy or deliberate naughtiness.

On that Christmas morning some one said, "Listen, something is going to happen!"

There were mysterious whistles, banging sounds and approaching footsteps that would have sent thrills of anticipation quivering through an ordinary child. They were all lost on Petkin. Straining with listening and attempting to look in all directions at once, she was so tense when the red-coated, white-bearded figure suddenly appeared from the darkness of the adjoining room, that she was frightened almost into hysterics. She spent the remainder of the day weak from the effects, and miserably aware of her family's disapproval of her silly nervousness; she had made a fiasco of something they had arranged as a delightful surprise.

More and more through her childhood she strained her nervous system. Was that faint sound her name? She rushed into the next room to find she had been called a dozen times; she ran down stairs when she should have run up; she arrived within hearing distance after part of the message had been delivered. In fear and worry she lost the love and happiness of childhood.

Even play had its tension and terror, although Petkin was long of limb and fleet of foot. In tag the other children did not struggle to breathe after running, and seemed by some instinct to know when the one who was "it" was close behind. In blind man's bluff when Petkin was caught she stayed "it" until the game was abandoned. She avoided climbing and jumping across open spaces. Adenoids choked her breathing and the diseased ears prevented a fine sense of balance.

She thought she must be more stupid and cowardly than the others, and hated herself for

it. She became more and more shy, preferring to take Mama's hand and go with her. She was thought to be unusually devoted to her parent and no one realized she was not developing initiative and independence, but was living in a world of subjective dreaming. Health, both mental and physical, was taken for granted. And since neither psychology nor physiology were considered proper or interesting subjects for discussion in her family, Petkin learned not to mention any peculiarities she thought she discovered about herself.

At school, she did not know that the other pupils heard all, and with ease, even if the teacher, or pupil reciting, happened to be on the opposite side of the room. She carried on by straining with overattention. Toward the close of the day's session, when the barometer stood low, she was dreamy and stupid. So were the other children. There was nothing to differentiate Petkin, to indicate that at these times her ears were so congested or worn with straining that she actually could not hear enough to keep up with the sounds and vibrations around her.

A few teachers were so difficult that Petkin occasionally overcame her shyness and pleaded not having heard. One teacher considered her a liar; another resented having her work added to by the presence of a deaf child; another, without any explanation from Petkin, sensed the child's difficulty, made allowances, and Petkin was happy in that class. To most of the teachers she said nothing, and accepted unmerited punishment for inattention; she was afraid and unhappy.

She ended the ten years of her school life by graduating from high school with scholastic honors, a worn-out nervous system and a rapidly progressing case of nerve deafness.

Four years later another girl graduated from the same high school with an honor record, a poise that indicated bodily and mental health, and the same amount of hearing with which she was born—none!

Both girls worked for the honors, but open acknowledgement of the totally deaf girl's difficulty, coupled with a high proficiency in lip reading, made her major defect actually less of a strain and handicap than Petkin's minor trouble.

There Are Thousands of Petkins

Petkin's is not an isolated case. There are thousands of little Petkins, considered naughty, inattentive, backward or nervous. They are struggling against the handicap of defective hearing, the serious consequences of which are largely avoidable, if attention is given in time. The remedy lies in the word prevent, and that means better and earlier medical care.

Children in the following generation in Petkin's family showed the same inclination to ear involvement. Removal of adenoids and tonsils in infancy and careful watching of the general health, and the ears for infection, precluded the development of this tendency.

It is up to parents to establish a more attentive attitude toward the health of their children. Personal hygiene and sane living are big subjects, but they must be considered. If a child is not strong and healthy, there is something the matter with the child's body or environment.

The solution of this problem lies in education, and in America the means lie in the public school. There should be more teaching of hygiene and insistence on segregation for even such common ailments as the ordinary cold; more and better medical clinics with forces large enough to handle the work and follow up the cases; better cooperation between teacher, parent and clinic.

There should be lip reading classes in public schools for every child who has the slightest defect in hearing. This early relief of strain on the ears will be a great contribution toward conservation of hearing. The ideal toward which to work is two daily half hour classes in lip reading, one for the younger hard of hearing children and one for the older ones. A city school board can afford to hire one teacher to teach lip reading. The children can be brought from neighboring schools, and through this means a fair proportion of hard of hearing children will receive care. Country schools can unite and hire a teacher who can give intensive training during a portion of the year, or semi-weekly lessons for a longer period. Special instruction in gymnastics, vibration and music should be provided whenever possible.

Petkin never learned to carry a tune. She heard only the mass of sound, never the air or a single part. Dancing school was agony to her; she was expected to keep time to a beat she did not hear or feel.

Alexander Graham Bell's wife was deaf; his father was one of the great pioneers in working with the deaf. The most far-reaching results of Bell's interest in deafness are the telephone, the invention of which is due principally to his understanding of speech, and the Volta Bureau at 1601 Thirty-Fifth Street, N.W., Washington, D. C., the philanthropic society which Dr. Bell established and endowed for the promotion and dissemination of knowledge relating to the deaf. The telephone has become the arteries of the nation; the Volta Bureau, the mind center for the elimination of deafness.

He who would chart the pathway of the hard of hearing child must be a pioneer, for the problem is new. He must spread the realization that the problem of the hard of hearing child is important and soluble; he must make a study of ways and means, medical and educational.

The goal is the saving of the hard of hearing child and the elimination of adult deafness.

A Home Nursing Course for Mothers and Daughters

ELSIE PAISLEY

A corner of the hospital room and a demonstration in bandaging.

THE PRINCIPAL'S wife suggested the need for a room equipped with a bed and supplies for an emergency. This is a consolidated school, and many of the children come in the school truck. If a child became ill or had an accident it was necessary, in almost every instance, to wait for the truck to take him home.

The women of an active community club agreed to sponsor the project. After the room was furnished as a hospital room, they asked the county school nurse to include them in the demonstrations in home nursing. Quilts were made and sold to customers in an adjoining town; daffodils were sold at the curb market. The bedside table and dresser were donated by people in the community. An enterprising club member persuaded local merchants and bankers to give sheets, blankets, pillows and counterpane. A first-class hospital bed with a good mattress was bought with the money raised. The boys in one of the local shops made the frame for a burlap screen, which the women covered. The women waxed the floor, and the girls made dainty curtains.

The domestic science teacher taught the theory of home nursing, and the school nurse gave demonstrations to the girls one morning each week. In the afternoon of that day she taught a class of mothers.

Both classes had drill on bed making and bed baths. The women asked about the medicine closet and what supplies were necessary, both for ordinary use and first aid. The high school girls made first aid kits. Cigar boxes were covered with brown wrapping paper, decorated with a red cross and lettered in red on the lid. They were lined with white paper and filled with triangular and roller bandages made of old cloths, soft dressings from old handkerchiefs sterilized with hot irons, a small bottle of iodin, a tube of vaseline, a small roll of sterile cotton, adhesive tape, safety pins, needle and thread, scissors, and a few tooth picks.

In spite of precautions taken to prevent the spread of disease, the basketball team went forth to win honors and came back with measles. The ill wind that brought several cases of measles also brought the opportunity to study how diseases are scattered and the need of quarantine. As a home project, each girl was asked to invent five games that could easily be burned after the patient's recovery from a contagious or infectious disease.

When the serving of food for the sick was studied, the teacher suggested that the class send a tray to a little girl who had returned home from the hospital. It was hard to tell who enjoyed the tray the most, the girls or the little patient. The girls made scrap books with recipes and suggestions for serving patients.

A number of lessons were given on the care of babies and young children. Sonny, the year old baby of one of the teachers, was the model for bathing and the girls found him much more interesting than his understudy, a big doll.

The sewing teacher seemed to feel that sewing on a layette was too fine work for first year high school girls, so she gave them some ideas about a proper layette, and asked them to cut a pattern from an approved one, out of newspaper. They drew a design that could be outlined with featherstitching around the hem of a baby dress and were shown how to make a baby shirt from old underwear.

In addition to making as many things as possible in connection with the course, the girls made posters on birth registration, care of babies and children, how diseases are scattered, ventilation and foods.

How Uncle Sam Protects the Health of the Traveler

W. F. DRAPER

FOR MOST people there is a thrill and a mysterious feeling of pleasure in embarking on a long distance journey on a modern railway train or vessel. The absolute freedom from care and responsibility, the attractive and comfortable parlor cars and Pullmans, the berths and staterooms with their fresh, clean linen, the club cars and smoking rooms, the dining cars with their neat white-aproned waiters and the delicate aroma of coffee and tempting viands, all serve to make the trip both pleasurable and beneficial.

Not without careful thought and planning, however, have modern methods for insuring the health and comfort of the traveler been developed and put in operation. You may not be aware, for instance, that when you travel on a train or vessel which crosses a dividing line between states, Uncle Sam takes a definite interest in your health and welfare and cooperates with the railroad and steamship officials in seeing that you are safe. This is necessary because no state or local health official would have authority to enforce rules and regulations outside of his own jurisdiction.

Safe Drinking Water

Much of the drinking water for trains and vessels is examined by the state health authorities and certified as safe by the U. S. Public Health Service before it is taken on board. This examination and certification is being extended as rapidly as the resources of the state and federal governments permit and will eventually include all water supplies used on common carriers. As the standard for drinking water is such as to insure absolute safety, you need not be afraid to drink your fill of water which complies with it.

In all too many instances the railroads are unable to take water from towns and cities that are convenient watering points, because their public water supplies are not considered safe by the sanitary engineers of the state and federal governments who have carefully examined the water and investigated its sources. These places can scarcely point with pride to the fact that they supply their own citizens with water of a quality deemed unsafe for the traveling public. At one town recently visited it was found that some of the traveling men and others who knew the condition of the public water supply were in the habit of taking a long last drink just before leaving the train and quenching their thirst with bottled goods until they could get on the train again.

On certain river steamers in the past it was a time-honored practice for members of the crew to reach over the low guards with a bucket on the end of a rope and secure drinking water. They did not take into consideration the fact that cities and towns along the banks discharged their sewage directly into the river. A considerable degree of immunity to the diseases caused by polluted water seems to have been developed among the men who drank it constantly, and they actually expressed considerable aversion to the drinking of pure water, insisting that raw river water was necessary for good digestion.

In other cases, cross connections have been found between the drinking water and fire systems on steamers,

Uncle Sam takes a definite interest in your health and welfare and cooperates with railroad and steamship officials in seeing that you are safe and comfortable.

which permitted grossly polluted water, sometimes taken on board when the vessel was lying directly over a sewer outlet, to become mixed with the drinking water and thus endanger the lives of thousands of passengers.

The correction of such conditions has taken many months of careful, painstaking work in following up the various water supply systems on the vessels and effectually breaking all connections between those lines carrying drinking water and lines carrying other water. Vessels of the better class now have drinking water systems separate and apart from the systems supplying water for other purposes and are also equipped with the finest sterilizing apparatus in order to render water safe, in case it is necessary to draw the drinking water from a doubtful source.

While it is not an easy matter to discover cases of sickness contracted during a journey, the results of these sanitary improvements are indicated to some extent by the decreasing typhoid fever rate among American seamen employed on vessels on the Great Lakes. These men when sick are cared for in hospitals of the U. S. Public Health Service and accurate records are available. In 1913, 144 cases of typhoid fever occurred among American seamen employed on vessels on the Great Lakes. Following the inspection of drinking water systems aboard the vessels and the installation of water purifying apparatus, the number of typhoid cases declined each year until in 1922 there were but seventeen cases. During this period, from 1913 to 1922, the number of vessels and seamen increased greatly.

Incidentally, these records show on a small scale the tremendous economic advantage of disease prevention. The average length of hospital treatment for a case of typhoid fever is about forty-two days and the cost per day in one of the marine hospitals is approximately $4. Each case treated, therefore, costs the government about $168. As there were 127 fewer cases of typhoid in 1922 than in 1913, the saving in these cases alone amounted to $21,336 during the year.

On this basis, adequate health protection of the 5,000,000 people who travel each year on St. Lawrence River and Great Lakes passenger vessels is well worth the attention it is receiving. In this connection it is interesting to note that the Canadian health authorities were so favorably impressed by American accomplishments along these lines that they requested the surgeon general to detail an officer to advise in the establishment of similar measures on Canadian vessels on the Great Lakes.

Clean Ice Water and Food

One seldom thinks of ice as a factor in the causation of disease and yet the conditions under which it is handled and supplied to the drinking water tanks on passenger cars are such that special precautions are necessary. It is almost an impossibility to prevent employees from transferring the ice to the tanks with their bare hands, and it is impossible to be sure that those hands are reasonably clean. Moreover, ice readily eludes the grasp and falls to the platforms and into the gutters alongside the tracks. Such places are contaminated by refuse

The dining cars, with dainty appointments and wholesome, tempting food, make traveling a pleasure.

Photos Courtesy of the Chicago Health Department

The kitchens are shining examples of cleanliness. Waiters and cooks pass a health examination.

from the cars. If the ice is then picked up and placed directly in the tank of drinking water, dangerous pollution is an accomplished fact.

The only way such evils can be entirely overcome is to arrange the tanks so that the ice does not come in contact with the water. Government health officers and railroad officials saw the necessity of this and this year completed the reconstruction of water coolers so as to prevent the contact of ice with drinking water. This has been accomplished by organized effort and the expenditure of hundreds of thousands of dollars by the companies. It is additional evidence that those who serve the traveling public have its health and welfare at heart.

The selection and care of food, and the selection, physical examination and training of food handlers are matters which are given adequate attention by railroad and steamship companies. The standard of excellence and safety of the food, and the freedom from disease of those engaged in its preparation and dispensing, will in most cases compare favorably with the culinary departments of our best hotels.

Protecting the Traveler from Disease

Having considered the safety of the food and water there now remain for consideration the measures that are taken to protect the traveler from persons who are infected with communicable diseases. Persons sick with plague, cholera, smallpox, yellow fever, and typhus fever are not considered in this discussion. Such persons are not allowed to travel on interstate common carriers under any circumstances. Persons with other communicable diseases may be accepted when it is absolutely necessary for them to travel, but only under carefully prescribed conditions which insure adequate protection to other travelers. The precautions to be observed differ somewhat, depending on the character of the disease. The government regulations require that the sick person be placed in a compartment separate from other passengers and that he be accompanied by a properly qualified nurse or other attendant who has pledged herself in writing to comply with the instructions issued.

When arrangements for the transportation of a person with a known communicable disease have been made in advance of the journey, all goes well, but when a passenger comes down en route it is difficult, if not impossible, to avoid considerable unpleasantness. Other passengers at once become disturbed and apprehensive, and action to safeguard them from infection must be taken immediately. It is the duty of the conductor to telegraph the nearest health officer and arrange for him to meet the train at the nearest possible point and examine the patient In case a health officer is not available, the conductor must report the case to the nearest railroad company physician. One or the other of these officials can usually be located without great difficulty. The train then proceeds to the designated meeting place. If a drawing room or compartment is available, the sick person may be placed there, otherwise he may have to remain where he is.

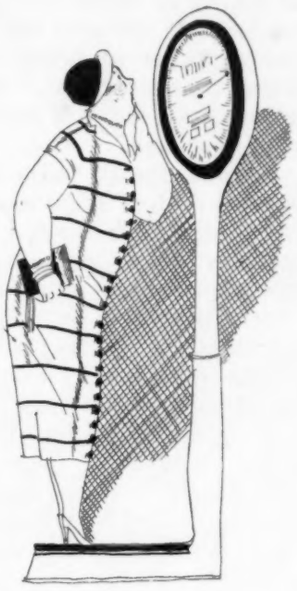
If the health officer or physician finds that the person has a communicable disease, he must remove him from the train and provide for his care until he is no longer infectious. However, if conditions on the train are such that he can be isolated and cared for in accordance with the regulations prescribed for his particular disease, this may be done.

As soon as the sick person has been removed, the berth, compartment, or stateroom which he occupied must be closed and cannot be used again until the space and its contents have been properly cleaned and disinfected.

Notwithstanding all of the rules and regulations, persons in the early stages of a communicable disease or with a mild and unrecognized case, do occasionally travel and may give the disease to others with whom they come in contact. Usually, their condition is unknown even to themselves and they are quite innocent of the fact that they may be responsible for a case of serious illness in some one else. There are instances in which persons knowing that they have an infectious disease deliberately attempt to conceal it and travel about for their own selfish purposes, little heeding the consequences to others. These are the same class of persons who conceal cases of communicable diseases developing in their homes because of their unwillingness to be subjected to necessary quarantine measures. They may be encountered in any public gathering as well as on a journey.

Because of these unknown and concealed cases, which cannot always be avoided, the traveler should avail himself of every reasonable protection against them. Smallpox, for example, has been steadily increasing for several years, and is now quite generally distributed throughout the country. Mild and unrecognized cases are not uncommon and may be encountered almost anywhere. This disease is of such a highly infectious character that under present conditions the traveler who is unvaccinated, or who has not been revaccinated within the last three or four years, is taking a chance which is by no means justified.

Typhoid fever is another disease against which a considerable degree of protection can be secured. In traveling from place to place one can never tell when he may cross the trail of a typhoid carrier or encounter a food or water supply polluted through some accident. The administration of the antityphoid treatment is without danger and causes but little inconvenience. Every traveler owes it to his family and himself to take advantage of protective treatment and vaccination.



I REDUCE

is a new department created for the would-be-thin readers of HYGEIA.

Letters telling of your attempts to gain a sylphlike figure are answered by medical authorities. Write HYGEIA about your reducing problems.

I Reduce

FOR SEVERAL months, readers of HYGEIA who desire slenderness have been writing us about their particular reducing problems. In answer to the demands for a slim figure, and following the desires of our readers, we are creating this department—"I Reduce."

All questions and letters on this subject are referred to recognized authorities in this branch of medicine and the answers are framed by them. Address your letters on the problems of overweight to HYGEIA, 535 N. Dearborn St., Chicago.

The following letter is from a woman in Pennsylvania, who writes: "It is quite out of fashion to carry too much flesh, and, too, I know how inconvenient it is. That I share the general opinion on this point is proved by the advertising columns of newspapers and journals. There are reducing clothes, reducing foods, reducing baths, reducing records, reducing aparatus of all kinds and description. We even have reducing chewing gum. Every bookstore and magazine stand has literature on the gentle (?) art."

But let her tell her own story.

"I have reduced my weight, not once, but four times, and thereby hangs a tale, not of happiness and attractiveness, but one of discouragement and disaster. The four different methods I have used to reduce have given me the same results in each case—weight 185 pounds. I have discovered by painful experience that, while overweight is highly undersirable, the effects of reducing are apt to be more so.

"Each time I reduced, I acted on the advice of a physician and used the method advised by him. My first effort was several years ago. I took some sort of glandular treatment under the direction and supervision of a physician. I lost weight, but looked older and less attractive. Suddenly I began to faint. Instead of having more 'pep' and energy I had less, sometimes none at all. At last my physician discovered that my blood pressure was low and by the time it was back to normal, I weighed 185 pounds.

"The second time I got thin, I was advised to cut out starches and sugars. Judging from the tales I have heard, this seems to be the method approved by many physicians.

"According to standard diet books, it is not advisable to live for any length of time on a diet in which the protein content is higher than 10 or 12 per cent. With the exception of minerals and water, there seems to be available only starch, fat, sugar and protein. I am unable to figure how to cut out 3 or 4 possible foods and still keep the remaining one down to 10 per cent. of the whole. Yet the physician says one should cut out starches and sugars. He frequently fails to examine the patient to determine if reducing might be inadvisable. I cut out sugars and starches. Later, I had to be sent to a specialist in diagnosis to find out what was the matter with me. When I was well again I weighed 185 pounds.

"My third experience was quite different. I reduced under the direction of a physician who is a dietitian. The treatment consisted of a diet, a two hour walk every day and massage treatments three times a week. When I complained that results seemed to be slow, he assured me he did not dare to advise any less food, as the results would be 'absolutely pernicious.'

"Several months of this method of reducing gave me these results—I first lost four pounds and then gained seven.

"I started my fourth and last weight reducing orgy at the suggestion of another physician. He told me what I already knew, that I was too fat and would look better and feel better if I were not so heavy. I determined that this time it would be done slowly and safely. For about a year and a half I lived on a well-balanced diet of 1,500 calories a day. This is not low for a reducing diet. In a year and a half, my weight came down to 154 pounds. I was hoping to reach 140 pounds, which is, I understand, what I should weigh.

"Then, suddenly, I went blind, or nearly so. When the oculist could not find the cause in my eyes, he sent me to a nerve specialist. His first command was full diet ahead. From then until now I have been forbidden even to count calories, much less to pass them by. My dieting has been the cause of my blindness. Again my blood pressure was low and I fainted frequently.

"My sight came back, though I do not see well. Nor do I hear very well, although apparently there is nothing wrong with my ears.

"I now weigh 185 pounds!"

The following comments are made on this letter by a specialist in reducing weight:

First, she was treated with some kind of gland preparation. This caused her to lose weight rapidly, but also to develop weakness and fainting spells. It seems fairly certain that large doses of thyroid were the active agent here, and this form of treatment is known to be inadvisable for simple obesity.

Second, she was advised to reduce her consumption of starches and sugars. This is a simple method by which most persons are able to reduce weight. But the patient, somewhere, picked up the misconception that the protein must be only 10 or 12 per cent. of the total diet. Through this error, she evidently starved herself with undesirable results.

Third, the patient was under the care of a specialist who reduced her weight very gradually by a moderate regimen, perhaps for the very reason that she had had trouble from rapid reduction. No harmful results are mentioned for this treatment, but the patient afterward regained more weight than she had lost. Here the trouble seems to lie in the discontinuance of the treatment. If she was not taught how to continue the regimen at home, there may be some criticism on this point. If she received the instruction and did not carry it out, the fault must lie with her.

Fourth, she was finally reduced from 185 to 154 pounds on a diet of 1,500 calories, which is said to have been well balanced, and on which she continued for a year and a half. Then partial blindness, for which an oculist could find no cause, was attributed by a nerve specialist to the undernutrition. If the protein intake was adequate, I can say nothing except to disagree with this diagnosis, at least as far as my own experience gives any basis for judgment.

There is no harm in a properly conducted reduction of weight. There may be harm in reduction accomplished by wrong methods, particularly those involving the use of drugs or protein starvation. In the days when we had to starve many thousands of diabetics to highly undesirable degrees, sometimes to most extreme emaciation, I never saw or heard of any of these peculiar ills which many laymen and some physicians attribute to undernutrition. The excessively starved patient is thin and weak, and returns to normal when he can take a diet which restores normal weight. There are rare cases of endocrine disorder in which reduction of weight is extremely difficult and in which the patient may feel weak and miserable on the very low diets required. This patient seems not to belong to that class, for she reduced on a diet of 1,500 calories and mentions no special discomfort during the long period on this diet.

The diets used for reducing the weight of persons of ordinary stature contain from 50 to 100 grams each of carbohydrate and protein, and from 600 to 1,000 calories. Higher or lower diets may be used in exceptional cases. Success is governed largely by the art of adapting the diet to the individual need. Some patients are best treated by gradual reduction prolonged over a considerable time.

The rate of reduction is also a very uncertain matter. Some patients lose more rapidly and some more slowly on the same regimen, and only trial can decide the rate of reduction which is most advisable and least uncomfortable in a given individual.

The Place of Sugar in the Diet

ALONZO ENGLEBERT TAYLOR

FOODSTUFFS are of two kinds: maintenance foods and fuel foods. Under maintenance foods are included those that sustain tissues, contribute growth, maintain intracellular composition and metabolism (tissue change), and support upkeep. These maintenance foods contain the indispensable factors of the diet—the balanced protein, vitamins, and mineral salts. The fuel foods provide the energy for body heat and physical work. Naturally, the two groups overlap somewhat; foods rich in the indispensable factors of the diet contain also fuels; foods comprised primarily of fuels contain often a certain amount of the indispensable substances.

A quart of milk and 400 calories' content of fresh fruits and green vegetables (such as are freely available in this country), containing together 1,000 calories, supplies all the indispensable factors of the diet for one person each day.

The remainder of the diet, including meats, cereals, oils and fats, staple vegetables, and sugar, some 2,600 calories per day, supplies the fuels required for support of body heat and physical work.

Such a segregation of the diet is entirely practicable in all portions of the United States.

Sugar is a fuel food. The place of sugar in the diet is concerned with the relation of sugar to other fuel foods and has nothing to do with the relation of the fuel foods to the maintenance foods. Maintenance foods are purchased on the basis of valuation of essential nutritional qualities. Fuel foods are purchased on the basis of climatic temperature, environment, physical work, taste, custom, convenience and price.

If the average person is to receive 2,600 calories in fuel foods per day, what are the reasonable claims of sugar in this category? What proportion of the 2,600 calories is at present in the state of sugar?

Use of Raw Sugar Only a Fad

We have many food fads, and one of them preaches the doctrine that sugar ought to be consumed in the unrefined state. Raw sugar contains traces of vitamins and mineral salts. The raw-sugar faddist argues that these vitamins and mineral salts are valuable in themselves, that when sugar is refined the life is taken out of it, and for this reason sugar ought to be eaten in the state of raw sugar.

This is a fetish. In the mixed, diversified diet of the United States the vitamins and salts of raw sugar are negligible and superfluous. Refined sugar is dry, packs easily and cheaply, and keeps perfectly. Raw sugar is moist, costly to pack, and tends to spoil. Persons who prefer the taste, or the idea, of raw sugar find it available on the market at a higher price than refined sugar. It is efficiency in the act of refining that has made sugar the cheap and popular food it is today.

We have two kinds of consumption of sugar. One demand is inelastic, resisting rise in price, and this form of demand leads to hoarding in periods of scarcity or high prices. With the other kind of consumption of sugar, demand is elastic, consumption rises with low price and declines with high price. Probably the consumption of sugar in manufactured form is more elastic than that of refined sugar on the table. The present huge world crop of sugar is being consumed because sugar is now a relatively cheap food.

Sugar Furnishes Us 19% of Our Fuel

Sugar at present supplies about 500 calories per person per day, corresponding to an intake of a little over 100 pounds per person per year. In other words, about 19 per cent. of the present intake of fuel foods is in the form of sugar. Sugar has five distinct uses in the diet. It is:

1. A conserver of foods.
2. A flavoring substance.
3. A satiation factor.
4. A staple fuel.
5. An emergency fuel.

It is impossible to indicate how the 500 calories per person per day are divided among these five separate services that sugar renders. We do not know how household purchase of sugar is divided between straight sugar and sugar in manufactured or compounded form. It is, however, possible to indicate the characteristics of these services.

1. The conserving influence of sugar is utilized in the preparation of many food products, especially fruits. Suspended in a sugar concentration of certain strength, fruits are resistant to decomposition. Sugar is also employed in the curing of meats and of other foodstuffs. Of course, the foodstuffs now conserved with sugar could be conserved in other ways, but sugar represents a form of conservation hallowed by

custom and adapted to the taste of inhabitants of the temperate zones.

2. The employment of sugar as a flavoring agent is so widespread as to require nothing more than mention. It is, however, important to realize that the consumption of fruit depends to some extent on the consumption of sugar. One of the most praiseworthy developments of the modern diet lies in the expansion of the use of fresh fruits. This expansion has been contingent on the free availability of sugar at low price.

Two prominent causes of increase in consumption of sugar during recent years have been the expanded use of fruits and the contracted use of alcoholic beverages. Sugared drinks have been widely employed to replace alcoholic beverages.

3. The use of sugar in desserts is an illustration of the employment of the satiation factor. Topping off a meal with a sweet dessert gives a sense of satiation. This sense of satiation is an important item in the diet. A reducing diet containing sugar will give a better sense of satiation than another reducing diet of the same caloric content without the sugar.

4. As a staple fuel, sugar ranks with starch. The difference in fuel value between starch and sugar per gram of dried material is very slight. Starches are usually cheaper than sugar, but starches require cooking. Sugar is more rapidly digested than starch; otherwise they are entirely comparable fuels.

Oils and fats are the chief competitors of carbohydrates as fuels. A gram of water-free animal fat or vegetal oil contains over twice as many calories as a gram of water-free starch or sugar. The preference for starches and sugars as against oils and fats varies in different regions, with different classes, and in different individuals. Meats are also fuels, but as a class they are much more expensive than oils and fats or starches and sugars.

Cereals and Sugars vs. Fats and Meats

Broadly considered, these classes of fuels compete on the basis of price. According to Pearl, the calories contributed by cereals and sugar to the daily per capita diet, average of the years 1912-18, were as follows:

Cereals	1,252
Sugar	478

The proportion desired to be contributed by cereals and sugar, as contrasted with fats and oils and meats, lies within the domain of consumers' choice, in accordance with motives that obtain to different extents in different regions, in different classes and in different individuals. Broadly considered, there are no nutritional questions involved; the questions are related to custom, convenience, taste and price. Therefore, the place of sugar among the fuel foods depends upon consumers' desires within the general domain of fuel foods. We are a sugar-loving people; therefore we rate sugar high and consume it freely in many forms.

5. The use of sugar as an emergency fuel depends upon its rapid resorption. Sucrose (the scientific name for ordinary sugar) is split into d-glucose and d-levulose. The former is absorbed directly; the latter is converted into d-glucose in the act of resorption. The process of resorption is so rapid that sugar appears in the muscles (the firebox of the body) within a few minutes after ingestion. Practical experience has confirmed experiment in this regard, and sugar is widely issued as an emergency ration for soldiers, explorers and forced-draft workers of all kinds, including athletes.

Overweight Not Due to Sweets Alone

A large proportion of persons over 40 are overweight. The attempt has been made to associate this overweight with the present high sugar intake of the country. This is an unsound inference. The state of being overweight is the result of an excess of calories *in toto* and not of an excess of calories of a certain source.

Since we are consuming 100 pounds of sugar a year, as contrasted with 75 pounds only a few years ago, this means that we are consuming less of cereals, meats, fats or oils. When the dietary habits of overweight individuals are scrutinized, it will be found that sugar is the foodstuff gorged by some, starches by others, fats and oils by others and meats by others. There is evidence tending to show that the level of average total caloric intake has risen while the level of average physical exertions has declined; the combined result is an increase in average body weight after the age of 40.

Directly speaking, however, the average increase in body weight cannot be attributed to increase in intake of sugar or any other single foodstuff. The remedy is not a motivated decrease in the intake of sugar but rather a revision downward of the total diet after 40, with increase of physical exercise.

The relation of ingestion of sugar to diabetes has been the occasion of widespread misunderstanding. The diabetic does not burn carbohydrates properly. But it is not correct to assume that the cause of diabetes lies in exhaustion of the pancreas under the burden of carbohydrate ingestion. Salt is injurious to the subject of nephritis, but this is not saying that salt is the cause of nephritis.

The statistical evidence indicates a higher incidence of diabetes among the obese than among individuals of normal weight. There is no statistical material to indicate that the cause of this obesity is carbohydrate foods. I am acquainted with no tabulation of diabetic cases tending to show that diabetic subjects were

inordinate consumers of carbohydrates during the period of the development of the disease. So far as is known, obesity is contributory to diabetes, quite immaterially whether the obesity has been due to fat, alcohol, carbohydrate or lack of exercise.

Sugar was once a luxury in the temperate zone, an exotic tropical product. It is now a necessary of the commonest kind, produced in the temperate as well as in the torrid zone. As a luxury, it was long subjected to excise tax, on the theory that it was a luxury on which the well-to-do could afford to be taxed. It is now so cheap in price that it is widely regarded as a source of revenue, and taxes are placed on it on the theory that it is so cheap that an added impost will not be felt.

In some plants the process of assimilating carbohydrate is finished at the stage of sugar; in others it proceeds to the state of starch. The chemist has discovered how to retrace the process and the result is the manufacture of glucose from starch. Glucose has practically the same fuel value as sucrose (both as a staple fuel and as an emergency fuel), but is inferior as a conserver, a flavoring substance and a satiation factor. There are uses in the diet and in the manufacture of compounded foods in which this inferiority of glucose becomes a positive advantage.

The consumer has the right to know which kind of sugar he buys. Since glucose is apparently destined to achieve a wide use, sugar-containing foods should be labeled either according to the chemical name or the natural source. If labeled according to the chemical name, the labels would read: "containing sucrose"; "containing glucose"; "containing invert sugar"; "containing lactose." If labeled according to the source, the labels would read: "containing synthetic corn sugar"; "containing cane sugar"; "containing beet sugar"; "containing milk sugar."

In conclusion, it would seem to be a matter of indifference, from the nutritional point of view, whether the sugar consumption falls to 90 pounds per person per year or rises to 110. The place of sugar in the diet of the population is determined by taste, custom, convenience, and price, and it lies, for practical purposes and within reasonable limits, outside of the domain of discussion of nutrition.

Heating the House Efficiently

THE use of fuel in the average home is "grossly inefficient" and the same heating service could be obtained with one half the fuel if persons would only use fuel properly. This is the opinion of Samuel S. Wyer of Smithsonian Institution.

Efficient fuel use can only be obtained by the use of the correct amount of air applied in the right way, says Mr. Wyer. The volume of air needed for proper combustion is about 16,000 times the volume of coal.

Dampers must be properly adjusted, and adequate flues must remove the combustion products. An opening should be provided at the base of all chimneys for occasional cleaning. When soft coal is used, horizontal sections of flue pipes requires frequent cleaning. Back or down drafts can be prevented by a hood at the chimney top.

Tests show that ashes frequently contain 50 per cent. carbon. This is because the grates do not receive proper attention. In shaking the grates, one should stop when the fire glow from above appears and before live coals go into the ash pit. The ashes should never be left under the grates after shaking. If they are removed at once, the grates will be protected and a better circulation of air will be obtained.

Even with the proper combustion of fuel, the heating problem is only partially solved. The big task is getting the heat into the room, water or food that is to be heated in the most direct and effective manner.

The ordinary furnace or water heater does not have enough heat absorbing surface, with the result that the combustion products go into the chimney at too high a temperature and much heat is needlessly lost.

Water tanks, furnaces and pipes for hot air, water or stream should be adequately insulated.

The use of a thermostat, a device for controlling fuel burning so as to maintain a predetermined temperature in a room, water tank or oven, will save from 15 to 30 per cent. of fuel.

Most houses are kept too warm. About 25 per cent. of the house fuel is used in raising room temperatures from 60° to 70°. Houses can be kept at 62° to 68° without any discomfort or danger to health. Keeping the house temperature low is the easiest way to save fuel.

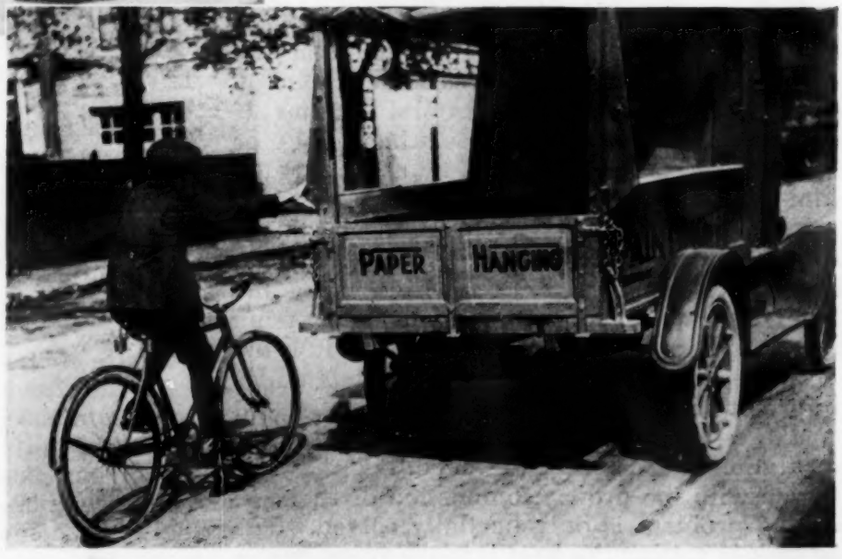
In almost all houses, especially where hot air furnaces are used, the air is too dry for health and comfort. A room with proper humidity—not less than 30 per cent.—will be more healthful at a low temperature than one in which the moisture content is too low.

Hot air furnaces usually take their cold air only from the outside. This is wrong. When the basement is clean, by merely taking the air out of the basement—at least in severe and windy weather—a saving of 20 or 30 per cent. in fuel can be made and the house can be kept more comfortable.

Learn to Play Safe and Avoid Accidents—

With fall weather comes dried leaves and much rubbish. Don't start a bonfire. You may cause thousands of dollars of damage to property and you may burn yourself.

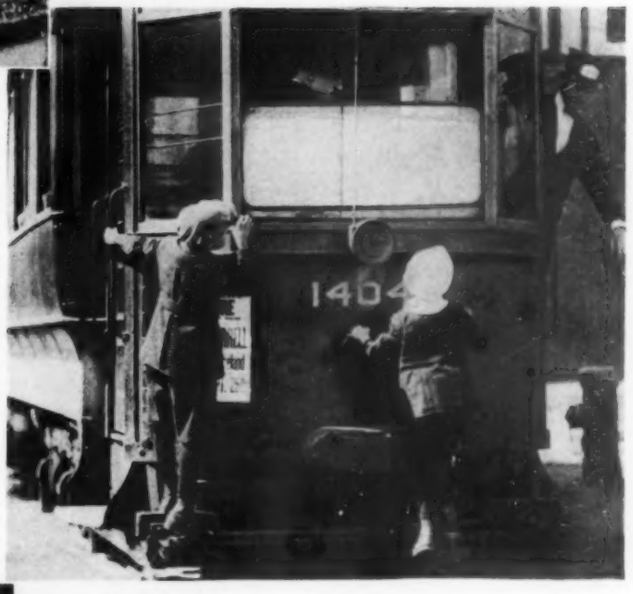
Ice wagons have always been a source of keen interest to little boys and girls. Ice looks perfectly harmless, but if one of the large pieces fell from the back of this wagon, it could do considerable damage to little hands, arms and feet. Don't climb on ice wagons.



School time means bicycle time. Don't steal a hitch while riding your bicycle. An automobile is likely to be following you, and if you were forced to loosen your hold you would be in immediate danger.

A Few Important Don'ts for Boys and Girls

If baby cries because he wants to play with the matches, let him cry; he will get over it. Don't let any one play with matches—burns have been fatal.



The conductor has stopped the car and is making the boys get off. He knows the danger to life and limb in ride stealing. Don't hop street cars.

The street may seem a fine clear space in which to play, but an automobile may turn the corner at top speed and put the children in immediate danger. Let the curb be the limit; don't play in the streets.

All photos from International

Photoart

Student golfers at a state university. Golf is becoming popular as an intercollegiate and intramural sport. The universities of Illinois and Iowa have their own links for the use of students.

Greater Athletes or Better Men?

WALTER MONFRIED

IT IS the day of the great game. From 40,000 to 80,000 persons have jammed their way into the concrete bowl to get a glimpse of the heroic deeds of a football team. As the huge crowd booms its approval or derision, twenty-two college boys, picked for their teams, shiver and grow nervous despite their warming-up tactics.

College athletics need no defense. Athletic contests are unrivaled, both as a spectacle and as a unifying element for student and alumni bodies. But the point remains that twenty-two young men on the first teams of the respective institutions are possibly getting more exercise than they need, while the massed thousands are getting practically none. Out of a student body of 8,000, eleven men overexert themselves, while about 7,000 exercise only their lungs.

Huge stadiums and field houses are being constructed to accommodate the throngs that wish to view popular intercollegiate contests and are willing to pay scalpers' prices for seats. We are becoming a nation of spectators. Our national pastime is not baseball or football, but "crowds." "Crowds" is the only distinguishing characteristic noted at all athletic events. Every one wants to see what is going on; few desire to play the game themselves. Over 100,000 people gather at the river bank to watch the Harvard-Yale boat race; eighteen oarsmen are engaged in the race. The total benefit of such a system of athletics is open to question.

Answer Comes in Intramural Athletics

"Athletics for all" has been the result of the reaction against the one-sidedness with which athletic benefits are bestowed. The principles of intramural athletics have been generally adopted in university policies because of "spectatoritis."

Intramural means "within the walls," and intramural athletics are played by students of one institution. The primary object of this type of athletics is the physical benefits derived on the part of the participants, not winning games. Intramural athletics are not a new thing. Forty or fifty years ago college students played games among themselves.

Back in those days college campuses were the scene of every kind of sport that appealed to boys. Something has discouraged this spontaneous playing. As universities grew and student bodies increased, the land formerly used for ball fields and play fields was sold or used for buildings. This left less ground for an increasing number of players. Then new activities grew up, activities of a sedentary sort—college newspapers, college clubs, college dramatics, social affairs—took the average student's time. The result was practically no form of daily exercise.

For these reasons, heads of university athletic departments have devised means of inducing every student to get out and play; intramural athletics afford every student exercise and recreation in the form of competitive athletics.

Western universities have been the first to adopt and develop this idea. A capable athletic director, skilled in sports and with a knowledge of student problems, is placed in charge. This position corresponds to that of coach or professor of physical education and has the official title, "Director of Intramural Athletics."

Within the few years that intramurals have been placed on a sound, systematic basis of organization, the results accomplished have been splendid. Instead of two or three sports open to students, there are dozens of branches of athletics of all types and for all seasons in which non-varsity athletes may engage. The number of participants in such sports in an average university used to be measured by hundreds; it is now calculated by thousands.

To be successful, intramural athletics must be voluntary. At the University of Illinois, where both voluntary and compulsory systems have been used, E. J. Manley, director of intramural athletics, says: "Experience has shown that voluntary competition creates more interest and provides greater benefits than compulsory competition. Such is the distinction between intramural athletics and the broader, more definite term, physical education."

Experts, both in physical education and medicine, agree that play is the best form of exercise. Compulsory exercise lacks the zest which marks the games and contests conducted for fun.

Teams form Cooperative Power

A feeling of cooperation was necessary to stimulate interest in intramural athletics; teams were formed and these competed for championships. In order to form teams several schemes were used. The University of Illinois established the "Unit System." This system divides the rooming districts into areas, each having the same number of students. The University of Wisconsin evolved the "Wisconsin League." This system gives the boys within a stipulated area a feeling of kinship.

Eligibility for intramural teams differs somewhat in various universities. Ohio State University places no restriction, except that a man cannot engage in a sport if he is a varsity squad man or a letter man in that sport. Other schools have more strict requirements regarding scholastic work.

Lakes or rivers in the vicinity of a university make possible the water carnivals—the high spots of the spring sporting events.

To stimulate men to do their best, the boards of control offer prizes for championships, runners-up and consolation winners in the form of valuable trophies, loving cups, and medals.

Efficient management and a full code of rules are necessary to carry out an intramural program. In addition to the director of intramurals, there are student managers who attend to the details and see that everything moves smoothly. In most universities, the managers are picked on merit; they must have satisfactory grades. Every intramural department has drawn up a fairly complete set of rules designed to cover all sorts of conditions, eligibility, protests, fees, and other matters which may come up for discussion.

Every conceivable sport which would be of interest to university men students has been put on the roster of intramural sports. At most of the schools, the school year has been divided into three terms or quarters, fall, winter and spring, and each sport has been placed under its proper designation.

At the University of Wisconsin, twenty-six different sports are given over to intramural competition—baseball, basketball, track, swimming, crew, canoeing, soccer football, fencing, horseshoe pitching, and gymnastics. It is the purpose of each intramural department to pro-

Photos on this page from Ruud

Skating is the leader of winter sports. This is the finish of a quarter mile race at the University of Wisconsin winter carnival.

vide enough sports so that every man will be interested in, and will participate in, at least one.

The University of Illinois has much the same calendar of events with the subtraction of water sports and the addition of a nine-hole golf course. Ohio State University, University of Michigan, and University of Minnesota maintain practically the same programs.

A typical intramural program covers the following sports in season:

Autumn: Football, Cross Country, Horseshoe Pitching, Bowling, Soccer.

Winter: Indoor Track, Basketball, Swimming, Water Basketball, Boxing, Wrestling, Foul Shooting, Ice Hockey, Handball, Fencing, Skating, Skiing, Gymnastics.

Spring: Tennis, Playground Baseball, Outdoor Baseball, Outdoor Track, Golf, Canoeing.

How Students Respond to Intramurals

Out of a total student enrolment of about 7,800, of which perhaps two thirds are men at the University of Wisconsin, more than 3,500 took active part in intramural athletics in 1924. More than 70 per cent. of all eligible men in the school were actively engaged in one or more sports during the year.

At the University of Illinois, which has a slightly larger enrolment than Wisconsin, 5,080 men took part in an intramural program during 1924.

In the 1924 season at Ohio State University, 14,727 men took part in nineteen sports. The school has a total enrolment of around 8,500. This means that every male student at Ohio State took part in an average of almost three sports that year.

Exactly 773 teams took part in games at Illinois during one school year. At Ohio State, 1,134 teams took part in officially scheduled intramural games, in addition to the competitors in events which are essentially individual in their nature. These figures show to what extent the intramurals are fostering the spirit of teamwork and cooperation among the men.

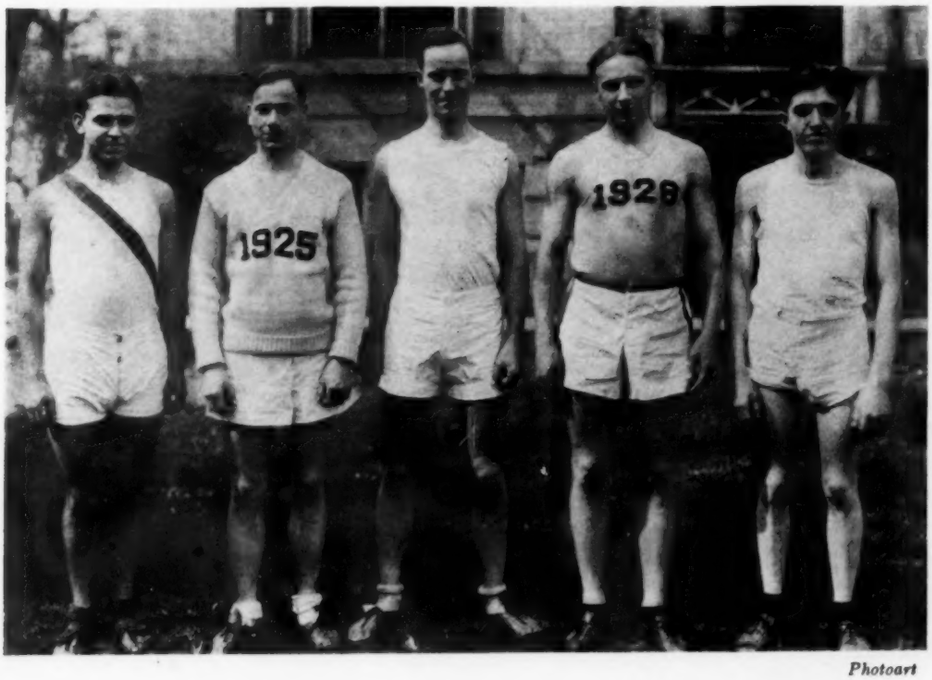
Benefits of Intramurals Are Varied

The student intramurals are not without their spectacular side. Most of the schools have arranged a relay carnival or festival, which is usually the culmination of intramural athletics for the indoor season.

Intercollegiate competition can result from intramural sports. Bowling has so increased in popularity that a conference fraternity bowling league has been formed for conference bowling champions. The men bowl in their own schools; scores are sent out by mail, and a champion is determined. Free-throwing or basketball foul shooting lends itself to intercollegiate competition.

The value of a system of intramurals, including dozens of sports and thousands of participants, cannot be doubted. It is impossible to point out the specific benefits of intramurals. A university cannot take each student, give him a complete examination before and after a season of intramural competition, and then declare that he is 4.073 per cent. more efficient. But if athletics have any value, then intramurals are accomplishing a real task.

Intramurals have been termed by some educators the best of all collegiate athletic systems: the golden mean between the dangers of overexertion on the varsity teams and underexertion in the pursuit of scholastic and other sedentary achievements. College men who participate in these sports are healthier physically and mentally because of a better balanced life and periodic stimulation from competition.



Photoart

This is a university Y. M. C. A. relay team, victors of an annual intramural relay race. Clubs, societies and churches form competing teams for intramural sport events.

When Johnny Breaks His Arm

RICHARD E. STIFEL

THERE are few moments in a family's experience of more intense excitement than the time when Johnny falls out of the swing and breaks an arm. The fact that the arm is broken is often self-evident from the angle at which it hangs helpless at the side. Indeed, Johnny sometimes comes home pale and anxious, followed by serious companions, with the simple announcement, "My arm is broke." Then parents' resources are taxed to the limit. There is apt to be a mad rush for the doctor. Volunteers frequently appear with diverse advice as to the best treatment until medical aid arrives. Some suggest hot applications, some cold, some this linament and some that. Too often, nowadays, Johnny is put into an automobile and a wild dash is made for the nearest hospital or physician. If no one is killed in this race, it is due more to kind providence than common sense.

Common sense should tell every one that in the event of a broken bone, there is no need at all for hurry, indeed, there is good reason for deliberation. Hurry is bound to jar and hurt the patient, in fact the rough handling that comes from hurry may so displace the broken fragments that a sharp point of the broken bone may be pushed out through the skin. In that case, a simple fracture has been converted into a compound fracture. This is a much more serious affair.

Nothing can possibly be gained by hurry. A few hours, even a few days more or less do not make much difference in the readiness with which a fracture can be reduced or set. Fibrous tissue and new bone are laid down very slowly about a break and it is largely these that make late reduction difficult. Hippocrates, the great Greek physician, forbade deferring reduction longer than the third or fourth day. This is still a good general rule, but it has exceptions.

One of the founders of surgery, the Frenchman, Ambrose Paré, has left an interesting account of an accident that befell him which shows how a simple fracture may be changed into a compound fracture. Paré's publications were translated into English in 1634. The story as told in this early English edition follows:

"John Nestor, Doctor of Physick, Richard Hubert and I went together to visit a Patient at the Place of the Friars Minorities. Wherefore, intending to pass over the Seine within sight of the place I endeavoured to make my horse take boat and therefore switched him over the buttocks. The Jade maddened thereof so struck at me with his heels that he brake both bones of my left legge. Then I fearing some worse mischiefe and lest the Jade should double with his blow flew back and as I fled back the broken bones flew in sunder and breaking through the flesh, stocking and boote shewed themselves, whereby I felt much paine as it is credible a man is able to endure. Wherefore I was presently carried into the boat that so I might be carried to the other side of the water to be dressed, but the stirring of the boat as they rowed almost killed me with bitterness of paine for that the sharp fragments of the bones were rubbed against the flesh which lay next them. Being ferried over as I was conveyed into the next houses, my paine was much increased whilst lifted by the hands of divers persons. When at the length I was layd upon a bed I was somewhat freed from the bitterness of my paine and had time to wipe off the sweat which ran down over all my bodie. I entreated Richard Hubert that he would handle me as he knew me not, neither that moved for love of me he should remit anything of the severitie of the art."

One must rejoice that today much of the severity of the art of surgery has been lost, thanks to the discovery of ether and other anesthetics. It is a satisfaction to know that Richard Hubert attended his distinguished patient and that he made a good recovery.

When Johnny breaks an arm it would be well if the neighbors heeded Paré's admonition, "The friends (of the patient) which are present let them see and hold their peace, neyther say nor do anything which may hinder the Works of the Chirurgeon."

In Johnny's case it is best to use no local applications at all, either hot or cold. It is usually best not to remove the clothing. The arm should be placed on a pillow, an ordinary sofa pillow or small bed pillow does very well. The edges of the pillow should be gently lifted around the arm and held in place by several straps or pieces of cord tied about it to form a sort of bundle. The patient should be made to lie down. Hot coffee may be given if he is faint. The doctor should then be notified.

When a leg is broken there is need for a cool head. On no account should the patient be helped to his feet or permitted to try to stand. Unless a stretcher is available, it is best not to

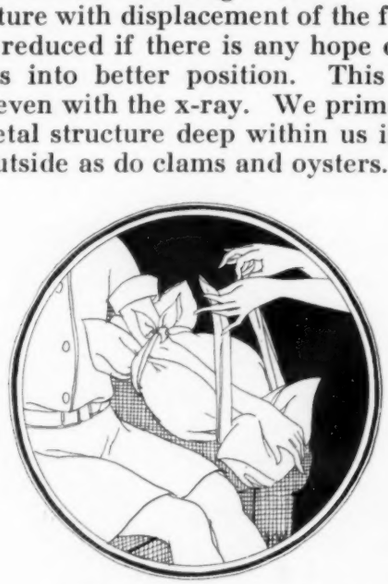
attempt to move him until the broken leg has been temporarily protected. A pillow splint is sufficient when the break is below the knee. Corrugated packing paper wrapped around the leg and tied in place by pieces of cord or handkerchiefs is often useful. When the fracture is in the shaft of the bone above the knee, the old-fashioned umbrella or walking stick splint is worth knowing about. In this case, one umbrella is laid along the outer side and one along the inner side of the leg and both are firmly strapped to the limb. As soon as the patient is in bed and the "bitterness of the paine" reduced, the straps should be loosened. Tight bandages should always be avoided in fractures. The circulation of the limb must have no interference.

The roentgen ray or x-ray has removed the uncertainty that was formerly associated with fractures. Even the smallest and slightest fracture can be detected in good roentgenograms. In many cases the injury consists of a mere crack in the bone without any change in the alinement of the fragments. Such a fracture does not require setting or reduction. It is popularly believed that all fractures must be set, but this is an error. A fracture without displacement needs nothing but rest or fixation by means of some sort of splint, either wood, plaster, papier-mâché or metal. Following the period of rest, massage can be used. Passive and later active motion will follow massage treatments.

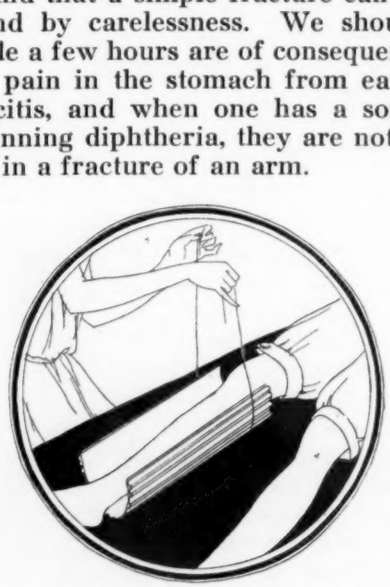
A fracture with displacement of the fragments is set or reduced if there is any hope of getting the parts into better position. This is often difficult even with the x-ray. We primates have our skeletal structure deep within us instead of on the outside as do clams and oysters. We are agile and sensitive to our environment. This is an advantage. But when we break a bone with its soft tissue covering, we are handicapped. Setting the bone may be like repairing broken china encased in thick velvet. Fortunately Nature pours out blood about the broken ends of bone, blood which forms a clot into which the new bone cells grow and produce a bony bridge or callus. At first the callus is often a large lump which can be felt under the skin. As time goes on, the callus gets smaller and the original continuity of the bone is partly restored. But years afterward the x-ray will give evidence of the old break.

Patients sometimes worry because fractured bones do not look well in the x-ray pictures. What would seem to a surgeon a good position of the fragments, may appear unsatisfactory to the patient. It is well to be satisfied with the work of the surgeon and to remember the difficulties and dangers with which he must contend. Firm union of the fracture and the best possible function of the limb are what is desired, not unusual x-ray results.

The dangers of fracture such as nonunion, disabling or unsightly deformity and paralysis from nerve injury are problems primarily for the surgeon. We need possess no expert knowledge of them. We should, however, know that a compound fracture means broken skin and a portal of entry for bacteria to an injured site where germs multiply rapidly. We should understand that a simple fracture can be made compound by carelessness. We should learn that while a few hours are of consequence when one has pain in the stomach from early acute appendicitis, and when one has a sore throat and beginning diphtheria, they are not of great moment in a fracture of an arm.



When an arm is broken do not try to remove the clothing. The arm should be placed on a pillow, the edges of the pillow should be gently lifted around the arm and held in place by several straps.



When a leg is broken do not lift the patient. If the leg is broken below the knee, a pillow splint can be used, or corrugated packing paper can be wrapped around the leg and tied in place by pieces of cord.

Taking Care of the Child's Skin

The Skin of the Baby

HERMAN GOODMAN

THE skin of children requires about the same care as the skin of adults. Cleanliness of the new-born baby is of paramount importance.

Every grandmother has her own recipe for the first bathing and the treatment of the scalp. Every one includes the free use of some oily substance, and with this there can be no particular quarrel. The scalp should be thoroughly cleansed and all the scurf (vernix caseosa) removed. All too often if the scalp is not so cleansed it forms a true nucleus or starting point for future trouble, not only of the scalp, but of the entire skin surface. Rubbing with some greasy medium may properly be done, provided that the grease is chemically clean. The use of fantastic substances, some of them actually harmful, must be avoided.

After the new baby has been given a fair start in the hygiene of skin, all efforts must be directed to keep the skin healthy. The orders of the attending physician as to the diet of the mother, and the number and duration of the feedings, should be followed to the letter. The medicine that the physician prescribes for the mother will not interfere with the baby, but some ill advised self medication may result in an eruption on the baby's skin.

Contrary to general opinion, birthmarks need not be present at birth, but may appear some time later. Early impressions on the mother of a mental or physical nature have no effect on the appearance of these marks.

A child may be born with or without hair. The hair that a child has at birth, however, usually falls out and is replaced by more permanent hair.

Certain diseases, like ringworm, are definitely known to be infectious. The child should not be permitted to fondle mangy animals, as the ringworm of dogs and cats may be transferred to children. If one child in the family or in the neighborhood has such a ringworm of the scalp, your child should not be permitted to exchange hats with him.

Certain animal parasites find lodgment on the hair, and if unrecognized may cause unsightly and uncomfortable eruptions of the scalp, neck, and the adjoining skin. Infestation may occur from trying on other persons' hats.

Other animal parasites affect the skin. At camps, in which numbers of girls or boys drawn from different sections live together, the presence of one child with the itch may mean other cases.

Children should be cautioned to use their own bathing suits and towels at all times, since common bathing suits may cause the spread of another parasitic disease of vegetable origin.

Young children are susceptible to infections of the skin more readily than older persons, whose skins may be toughened by exposure. At boarding schools, private schools, dancing schools, one child may escape the observation of the watchful teacher and other children may come in contact with impetigo, a mild infectious disease of the skin which is highly contagious. The regular inspection by school nurses in public schools helps to control the number of public school children so affected.

In order to have healthy skin, the child must have proper sleep, diet and clothing, fresh air, sunlight, and baths.

The best water for bathing is soft water; the water of rivers, lakes, and running streams is soft water, and it is soft water that comes to us in the larger cities from the water system. Hard water contains certain mineral salts that cause soap to curdle, but hard water can be made soft by boiling. The advisability of using soap in the child's bath depends on the choice of the soap. The baby should have its own piece of soap.

A good soap should be made from clean, fresh fats, and be free from an excess of alkali. It should not be adulterated with fillers. Medicated soaps and freak soaps should not be used. Untinted soaps are on the whole less likely to be contaminated. Floating soaps are manufactured to contain air.

The baby's bath should be between 90 and 98 F. The daily short bath is fine for the baby, provided there is no sign of irritation or scaling. Drying is important and a mild nonmedicated

dusting powder may be liberally used. After its bath, the best place for baby is its crib. One should not give baby the powder can to play with because inhalation of powder is dangerous.

If the skin appears too dry, inunction with sweet oil or olive oil may be practiced after the bath. A little cocoa butter may be substituted for these oils.

Clothing should be adapted to the seasons and to the temperature of the surroundings. Swathing the baby with innumerable wrappings, blankets and sweaters, while kept in a warm room, is not desirable. The garment closest to the body of baby should be a thin underthing of muslin or soft linen.

Fresh air and well ventilated apartments should not be forgotten. Most children get plenty of exercise but not enough fresh air.

If you are worried about the state of baby's skin or scalp, go to your doctor.

Rations for the Naval Aviation Unit of the MacMillan Expedition

THE MEDICAL officers of the Navy, in addition to meeting the routine requirements of attending the sick and injured of the Navy, must be prepared to solve the special sanitary and hygienic problems peculiar to naval service conditions.

Naval warfare is now carried on by means of surface ships, submarines and aircraft. The living conditions on these types of naval craft vary considerably and require study on the part of the ship's surgeon in medical supervision of the personnel. Not only must the local conditions aboard be investigated, but consideration must be given to the influences of the climatic conditions affecting health.

One of the special problems confronting the medical department of the Navy was the naval aviation unit attached to the MacMillan Arctic expedition. This unit required special sanitary precautions for the preservation of health.

Food acts as a fuel, and the fuel value of food is measured in calories. Men serving in an Arctic exploration expedition require more calories than those aboard the fleet in Guantanamo Bay, Cuba. The medical department of the Navy recommended a minimum of 5,000 calories a day for each man on the MacMillan expedition. This amount of food would cause the average person, in a normal climate, to grow fat. The normal man of average height and weight requires about 2,000 calories per day.

This year marks the hundred and fiftieth anniversary of the American Navy. On October 27, 1775, a resolution was introduced in the Continental Congress by the naval committee which was appointed a fortnight previously, authorizing the purchase of vessels to be converted into men-of-war. This was the first action of a naval character taken by the colonies after they united to redress their common grievances. The hundred and fiftieth anniversary of the Navy will be observed on Tuesday, October 27, because that day is not only one of the important dates in the early history of the Navy but, also, the anniversary of the birth of the late Theodore Roosevelt, so much of whose life was devoted to advancing a sound naval policy for the United States.

The naval aviation unit established an advance base about 300 miles from the ships at Etah, an Eskimo settlement on Smith Sound, N. W. Greenland. The food for the advance base had to be light in weight compared to its caloric value. So the Navy sent pemmican, a composite food used by Arctic explorers. It has high caloric value; one pound contains over 2,100 calories.

When the proper proportion of fats, proteins, and carbohydrates had been taken care of, vitamins had to be considered. These substances necessary for maintaining health were supplied by powdered oranges, powdered lemons, and yeast. And in case there should not be sufficient vitamins of still another class, the expedition took along a gallon of cod-liver oil. Taking cod-liver oil to the North Pole! Youngsters who dislike the taste might advocate the removal of the entire output of cod-liver oil to the Arctic regions, but what a lot of deformed bones and bodies would result!

One of the U. S. naval planes

Helping the Child Adapt Himself

The Work of the Child Guidance Clinic

SMILEY BLANTON

FIFTY THOUSAND people are admitted each year to the state hospitals for the insane. In the state of New York, one adult in ten is admitted to a state hospital at some time during his life. The number of beds in public hospitals for the insane equals those occupied by all other sick persons combined. Therefore, every second hospital bed in the whole country is occupied by an insane patient.

Startling as are these figures, they do not include the great numbers of people who go to private hospitals suffering from nervous and mental breakdowns, and the numbers of delinquent children who come to the juvenile courts.

There is still another large group of children and adults suffering from various ailments such as indigestion, heart affections, headache, stuttering, and chronic fatigue, whose symptoms are caused primarily by emotional strain and conflict. Such morbid conditions are called the psychoneuroses. Dr. William J. Mayo says they are the cause of more human misery than tuberculosis and cancer.

From my experience I venture to guess that from five to ten million people in this country have emotional conflicts, fears, obsessive ideas, moods, or emotional attitudes that cause actual breakdowns, or partial or complete failures in the social and economic world. Because of the social and economic burden of these cases, they may be considered as the great plague of modern civilization.

It has been the custom to attribute mental and nervous breakdowns and these numerous ills, for which no obvious physical cause can be found, to some subtle abnormality in the brain, some infection or hereditary defect. But physicians who specialize in the treatment of such cases have come to the conclusion that the majority of the nervous breakdowns, juvenile delinquencies, and social and economic failures are primarily caused by emotional attitudes and conflicts which may be avoided through proper training in childhood.

How a potentially healthy boy can become mentally ill through poor training is illustrated by the story of John ———, an only child, and a junior in college. During his freshman and sophomore years he stood at the head of his class and was considered by his instructors one of the most brilliant students in his class. During the autumn of his junior year, his work began to fall off. He cut classes and remained in bed whole days at a time.

At first it was thought he was suffering from some physical illness, but a physical examination showed nothing abnormal. He complained that he could not concentrate, felt tired, discouraged and depressed, and was beginning to contemplate various means of suicide.

When John was two years old, his father moved to the country. There John grew until he reached the age of twelve without any playmates. He spent his time daydreaming and reading in his father's well-furnished library.

The family returned to town and John entered high school, but he found he had played alone for so long a time that he was unable to mix with other boys. To cover up his sense of failure, John developed a feeling and an air of superiority. He said, "I considered the boys of my own age stupid and not worth associating with; I preferred to spend my time reading and studying."

When John entered college, he ignored his classmates and considered their amusements foolish. He preferred to devote himself to his studies and became especially interested in philosophy. He was considered a brilliant student, but in reality he was mentally sick.

By the time he reached his junior year, he did not have a single friend or companion. He had never had a sweetheart; he had not joined in the sports which normal boys enjoy—he found his complete outlet through study and daydreaming. Up to this time his only satisfaction had been the success which he had won in the academic field. But repression of his normal desires for companionship with boys and girls of his own age was more than he could stand, and he began to develop a condition of melancholia.

If John could have been taken to a child guidance clinic when he was 4 or 5 years of age—when he was just beginning to daydream and become seclusive, and if he could have been trained to play with normal boys and girls, there

is little doubt but that the condition of melancholia could have been avoided.

The child guidance clinics, in preventing breakdowns and social and economic failures, are a very important phase of the modern movement of preventive medicine.

Handicapped Early in Life

The following story illustrates an unhealthy self-centeredness not uncommon in children, especially in children who have neither brothers nor sisters: All of the children in my block had brought their wagons to one of the yards. All of a sudden a girl of eight came racing from the next block and yelled, "Now all of you kids get in your wagons and follow me. I'll lead you around the block." But the children said, "You go home; go on," and even threw rocks at her.

This little girl is less likely to succeed in life than if she was handicapped by a bad spine or delicate lungs. She has been taught to dominate instead of cooperate, and unless some one gives her definite help, she has a very unhappy life ahead of her.

The primary function of a child guidance clinic is to present to parents and teachers the fundamental laws of mental hygiene, so that the average, normal child will develop in a healthy manner. It is necessary for teachers and parents to understand the laws of mental hygiene if they are properly to guide children.

The laws of mental hygiene are just as definite and clear-cut as the laws of physical hygiene. Parents realize that they must have knowledge of the laws of physical health if they wish their children to develop healthy bodies. It is just as necessary that parents have some knowledge of the laws governing the mental life of their children if they wish their children to develop healthy minds.

The meaning of the term "mental hygiene" is not so well known as the term "physical hygiene." Many people think that mental hygiene deals only with individuals suffering from some mental disease, or they think that mental hygiene refers to the treatment and education of the feebleminded.

Although mental hygiene concerns itself with these matters, this is only a part of the story. Mental hygiene teaches the child to adjust himself in a healthy manner to the world in which he lives. All of the infant's early training tends to make him selfish and self-centered; he tries to get what he wants by every means in his power. This is natural and normal. But as the child grows older he must be trained to consider not only his own desires but the desires of others. He must learn to adapt himself to the needs and wants of society. Up to this point he has been a king and often a king very difficult to get along with, but sooner or later he has to step down from his throne and it is the process of teaching him how to get along as a subject instead of a king that is the important job of parents.

Perhaps you are saying, "That's old stuff; any old granny knows that." But when you look at the grown people around you or look, even, at yourself, you will find that most people do not know the first rules of group adjustment. They often behave like young children and if people will not do things their way, they will not play.

There is a tragic waste because of undisciplined emotions; people who have real capacity and real ability are not able to use their full powers. It is the 20 to 50 per cent. loss in efficiency due to emotional peculiarities and crankiness in these brilliant people that is one of the most expensive things to society.

The child guidance clinic serves a useful purpose in helping to prevent actual nervous breakdowns. It also serves a useful purpose in helping the average, normal child grow up without unfortunate emotional attitudes and conflicts, without feelings of timidity or inability to make friends, and without feelings of inferiority that would prevent him from making a success of his own life and the lives of others.

In the sandroom at the Minneapolis Child Guidance Clinic. Here unfortunate emotional attitudes and conflicts are checked.

The Development and Care of the Teeth

PERFECT teeth are a heritage. When we complain about the lack of perfect teeth, we should remember that we cannot change teeth that are ill shaped and have enamel defects. We can take excellent care of the kind of teeth we have, for well kept, clean teeth, regardless of size or color are good looking.

The deciduous, or baby teeth, begin to form at about the sixteenth or seventeenth week of prenatal life, and at birth most of the crown portions of the first teeth have been completed. However, it is usually six months later before they begin to come through the gums. These baby teeth erupt at different intervals thereafter, and all twenty of them are in service by the time the child is 2½ or 3 years old.

At birth the permanent teeth begin to form in the jaw bones below the developing "baby" teeth, and at the age of 4 a good portion of all the crowns has been completed, even though a child is usually between 6 and 7 years of age before they begin coming into the mouth. This transition period, changing from the "baby" teeth to the permanent teeth, usually continues for about six years, or until the child is about 12 or 13 years old.

From the above it will be noted that the most important period of development is from a time five months prior to birth to about the fourth year. It is during this time that normal formation of the teeth may be interfered with by malnutrition.

Many teeth come into the mouth with enamel defects, discolored and having imperfect forms. They may be peg-shaped, saw-edged, pitted, or deeply grooved. These teeth are of course less serviceable and break and decay more readily than perfectly formed teeth.

Teeth are composed of calcium carbonate and calcium phosphate, and it is absolutely necessary that foods be selected for the pregnant mother, nursing mother and child which contain ample amounts of these elements. Such foods as milk, cabbage, spinach and cod liver oil are indicated as tooth builders. All green vegetables and ripe fruits are excellent for this purpose and may be selected from any recognized dietary list.

Malnutrition may result from faulty diet or from disease, particularly from those diseases accompanied by fever, such as measles, whooping cough and scarlet fever.

Care of the Teeth

The teeth like every part of the body were devised for service and if we fail to permit them to function normally we can expect that the teeth and surrounding tissues will not be in good condition. Coarse food will aid in cleansing the teeth and stimulating the gums. Brushing the teeth is purely a mechanical means of removing any deposits that may have adhered to them, but brushing is a good habit.

Children should be taught at an early age to brush the teeth at least twice every day.

Any means of brushing the teeth which will accomplish a thorough cleansing and will not injure the teeth and gums will suffice. The outer surfaces of the teeth and between the teeth may be scoured by a vigorous rotary motion without lifting the brush from the teeth. No one of the five surfaces of the teeth should be slighted.

The gums should be brushed from a position high up on the gums onto the teeth, to prevent injury from the bristles of the brush and to keep from forcing foreign materials under the margins. This brushing of the gums acts as a massage and will aid in keeping them healthy.

After the teeth and gums have been cleansed, rinse the mouth thoroughly with plenty of cool water, forcing it through the teeth.

Ridding the Household of Insect Pests

LOUIS GERSHENFELD

THE USE of a heavy spray or biweekly applications of kerosene or a cresol-kerosene mixture brings to light more pests than were thought to be hiding. The spray poisons the food and air in the immediate environment. Bedbugs, roaches, fleas, and other insects that are thus driven into the open from their places of concealment can be killed in a few minutes by applying the spray directly on them.

Follow up this work by using a powder insecticide. This will act as an internal poison, or clog up the breathing passages of the pests, eventually killing those that remain. This powder should be sprinkled in places where it can be left undisturbed for a long period of time. It should be blown or sprinkled about by means of a blower, dust gun or dusting box in cracks, crevices, corners, on shelves or any place that insects are likely to crawl.

Many pests cannot be reached by powder insecticides, as it is difficult to get these powders into the places where the insects may be found. This is especially true if powders are employed in the eradication of bedbugs, and those insects that move about rapidly, flies, mosquitoes, etc.

Commercial sodium fluorid is one of the most effective of the powder insecticides. This chemical forms the basis of many efficient roach powders on the market. It is rarely used in the undiluted form. Frequently there is added from one fifth to one half of its weight of some inert substance, such as flour, starch, or sugar. If this powder is used persistently and with frequent applications as a dusting powder in or around cracks, crevices and in closets, it will eventually rid badly infested environments of roaches. Sodium fluorid scattered freely on floors or blown about in infested places will be somewhat effective against fleas and other insects.

Persian insect powder, known also as insect or pyrethrum powder, is another common remedy which has been employed to assist in insect eradication. Pyrethrum powder may become stale and then possesses little or no value. When fresh, this powder is at best a repellant. It will, however, destroy the larvae of moths in clothes that are thoroughly dusted with it, and then placed in a tightly constructed chest or trunk, or wrapped in unbroken paper. Some observers have advocated the sprinkling of this powder on floors, after coal oil, or cresol and coal oil, has been used, to assist in the eradication of fleas.

Borax, known chemically as sodium borate, enters into the composition of some insect powders, especially roach powders. A mixture of sodium fluorid, containing about 10 per cent. of borax, 15 per cent. of flour, and a small amount of sugar or powdered chocolate will make an ideal powder to be used for general insecticidal purposes.

Moth balls or powdered moth balls, erroneously known as flake camphor and scientifically known as naphthalene, is a well known substance employed for protecting materials against injury by moths and carpet beetles. A chemical similar in appearance, as effective, but somewhat more expensive, is being used in some quarters as a new remedy in moth control. This is scientifically known as paradichlorobenzene, and is sold by many under various trade names. Lump or gum camphor is used, but it is less effective in its destructive powers.

These powders must be used in tightly closed containers or environments to get the best results. The fumes given off by slow evaporation must be confined, for if allowed to escape they are only partially effective. At least one pound of powder should be used to each ten cubic feet of space. This is obtained by multiplying the length by the width by the height. If there is a possibility of the fumes escaping, from two to three times the amount given should be used.

If carpet beetles persist beneath carpets, rugs or upholstered furniture, the use of these powders cannot be depended upon. The best thing to do, if possible, is to fumigate with hydrocyanic acid gas, or to apply kerosene or a kerosene-cresol mixture in the crevices and cracks of the infested areas.

Dr. Paul Mitchell in an article published in *Health*, an Australian publication, says that crystals of Epsom salt are preferable to naphthalene for protection against moths, roaches, ants, and other commonly observed pests if used in trunks and closed places.

I have experimented with Epsom salt in suitcases, cupboards, and chests. In its crystalline form it protects against many household pests. The chemical should not be used in powder form. If Epsom salt in crystalline form is exposed to the air it loses moisture and turns to a powder, or it absorbs moisture, melts and becomes a liquid. Being most effective when

crystalline, it should not be used in open spaces. Employed in closed places, Epsom salt in crystalline form possesses a greater efficiency than naphthalene or pyrethrum powder and does not possess an objectionable odor.

Getting Rid of Fleas

A humid warm climate or mild wet weather seems to form an ideal condition for fleas. Though a certain amount of moisture is required during the various stages in the development of fleas, excessive moisture is as detrimental to the existence of fleas as is excessive dryness. When destructive methods are sought in the eradication of fleas it is well to keep these facts in mind.

Here is the treatment advised in a small ice-cream plant. The main floor of the plant was of cement construction. It was infested with fleas. Since the ice-cream making machinery was on this floor, fumigation and insecticides, most of which possess strong odors, could not be used. The entire floor was covered with a mixture of sea salt and sawdust. Water was then applied. This was allowed to remain on the floor over night. The operation was repeated after an interval of five days. The fleas were killed by this treatment. If boiling water is used on the sea salt and sawdust the operation will be more effective.

If simple methods have failed to eradicate fleas in your house, and fumigation cannot be practiced, one of the best ways is to sprinkle over the floor of an infested room five pounds of flaked naphthalene. The room should be closed tightly for at least twenty-four hours. After this period, the flaked naphthalene may be swept into another room that requires treatment. This is effective for the destruction of all adult and larval fleas. To be sure that all eggs have been destroyed wash the floor with kerosene, kerosene to which cresol has been added, a weak solution of bichlorid of mercury, or hot soap suds. After the floor coverings are thoroughly aired and beaten, they should be sprinkled with kerosene, powdered alum, pyrethrum powder or flaked camphor.

[*To be concluded in the December issue.*]

Mumps

BEATRICE R. LOVETT

HIPPOCRATES first described the fever with tumors below the ears. During the nineteenth century epidemics of mumps occurred and the contagious nature of the illness was recognized.

Although children are its chief victims, mumps is likely to invade any institution in which many persons are gathered together in close contact, such as schools, prisons and army camps. In fact, from the comprehensive studies of mumps that have been made in the latter, one might almost suppose it to be a disease of army life rather than of childhood. During the war many soldiers were temporarily disabled by mumps. In 1918, sixty-seven of every thousand troops had the disease, and during an epidemic in one of the camps every third man was affected.

How Mumps Is Spread

Epidemics occur most often in the fall and spring and are more frequent in the city than in the country, as the condition most favorable for them is close contact between individuals. Mumps is spread by transferring the germ from the mouth secretions of an infected person to the mouth of a healthy one. This may take place directly, as in kissing, through the air by means of the fine spray from the mouth, or indirectly by means of hands, handkerchiefs, pencils and other objects.

From the mouth, the germ enters the ducts that lead to the glands that produce the saliva. The consequent inflammation and swelling of these, especially the parotid gland, which lies below and in front of the ear, causes the characteristic appearance of the patient. In some cases the germs also enter the blood stream and produce inflammations in other organs.

Although the location of the germ in the body and the effects produced by it are fairly well known, its exact nature has not yet been discovered, or at all events not agreed on. The most recent experiments indicate that it belongs to the class of filtrable viruses, small, ultramicroscopic organisms that pass through a porcelain filter and can not be cultivated and examined by the ordinary means.

The incubation period, the time that elapses between the lodging of the germ in the mouth and the first symptoms of the disease, is about eighteen days, although it varies rather widely. The earliest symptoms are stiffness and pain in the jaw, difficulty in opening the mouth, and a drawing sensation after eating anything sour, hence the old fashioned test of eating a pickle. The mouth may be either unnaturally dry or filled with saliva.

Within a day or two, a swelling appears just below the ear, filling the space between it and the lower jaw. Usually one side swells first, and is followed in a few days by the other. The swelling increases rapidly, spreading forward and downward and giving the patient the usual "mumpish" appearance of puffed out cheeks and neck. There is fever, usually not high, and a general feeling of discomfort and tension, although no actual pain, in the swollen glands.

Talking and eating are difficult because the patient is unable to open the mouth well; hence the name from the word mompen, to mumble. After a week or more, the swelling subsides, the fever disappears, and within another week the patient is usually well.

Complications May Be Serious

However, there are complications that occasionally prolong the course of the illness and may even lead to serious results. The most frequent, inflammation of the testes, occurs only in men and boys past the age of puberty, and in the majority of cases recovery is complete. However, one or both organs may be left in an atrophied condition. Inflammation inside the ear occurs rarely, and rarely the hearing is permanently lost in one or both ears. Symptoms of meningitis, mild or severe, are sometimes present at the beginning or later in the illness. The infrequent deaths from mumps are usually due to this complication, although most cases of meningitis recover.

Mumps is treated in a simple manner. The patient is best kept in bed while the swelling is present, and given a light diet as long as there is fever. The mouth should be kept clean by the use of a simple gargle or wash. Hot or cold compresses, whichever give the most comfort, are applied to the swollen glands, or they may be wrapped in cotton wool and bandaged. Isolation for two or three weeks, or as long as symptoms persist, is most important, to prevent spread to other persons.

Thorough cleaning and airing of the room at the end of the illness is all that is necessary by way of disinfection. Other children in the family who have been exposed should be kept at home from the eighteenth to the twenty-fourth day after exposure; that is, during the time when they may begin to show symptoms.

Transmission by Third Person Rare

Transmission of mumps by a third person, or by intermediate objects, unless passed directly from one person to another, is fortunately rare. On the other hand, it is difficult to prevent infection of other members of the household, as the patient is probably infectious for a few days before the symptoms begin. Since it is important to recognize cases early, during an epidemic the slightest signs of pain and stiffness in the jaws should arouse suspicion and the person so afflicted should be kept away from others. In most people a single attack of mumps is sufficient to produce permanent immunity, but occasionally some one is unfortunate enough to have the disease a second time.

In several recent epidemics, the susceptible persons exposed have been treated with blood serum from patients convalescing from mumps, in an effort to prevent further spread. Most of the persons so treated have been protected. This method of prevention may prove to be done in scarlet fever and measles, but at present doctors do not stress it.

How I Use Hygeia in My Class Work

PRIZE LETTER CONTEST

SO MANY excellent letters were received in the contest conducted by HYGEIA on "How I Use HYGEIA in My Class Work" that there was difficulty choosing the prize winners. After the four prize winners had been selected, it seemed that practically all the others should receive honorable mention. But the rules of the contest called for five and five only. (The prize winning letters and the letters of honorable mention were parts of the September and October issues of HYGEIA.)

This month we are publishing some of the letters thought particularly worthy of mention. Jacksonville, Fla., tells how the magazine was used in university classes; Richland Center, Wis., says that they have found use for HYGEIA in every class but the arithmetic class. How HYGEIA has aided these teachers may suggest how HYGEIA can solve some of your problems.

Serves All Classes but Arithmetic

THE ARRIVAL date of HYGEIA in my grade room is typical of a class rush. The children are permitted to read the magazine individually or collectively, either at rest hours or during the daily reading circle period; hence its popularity at the beginning of the month. Each month three children from my sixth grade are chosen to give a three minute talk on some topic suggested in HYGEIA. Another child is chosen for each three to illustrate the talk by demonstrations or by a poster which may be original or copied from the magazine. For a topic to be given at the parent teacher meeting, one child prepared a talk taken from "Do Your Feet Hurt?" by Philip Lewin. He was assisted by a classmate who illustrated corrective exercises for broken metatarsal arches and for longitudinal arches as shown in the June issue of HYGEIA.

We find the magazine especially beneficial in preparing our essays to be entered in the annual state contest conducted by the W. C. T. U. as a part of its campaign against narcotics and tobacco. One fourth of the essay may be quoted from material read. Much of our information is derived from HYGEIA, as it is endorsed by the American Medical Association, which is, we feel, reliable authority.

For regular hygiene class work, HYGEIA serves as a supplement in reference reading. Our classes are conducted on the socialized recitation basis, thus affording ample opportunity for supplementing from various writers other than those quoted in the basic text.

The magazine material may be utilized in the language period as a basis for reproduction, for written or oral compositions, and as a means of dramatization. The playlets, because of their appeal to the child's appreciation of dramatics, teaches hygienic facts which are not absorbed when reading the same material in textbook form. The "Good Health Elves" as it appears in the May, 1925, issue was reproduced by us in oral and written exercises and dramatized and presented to the sixth graders by the fifth grade hygiene class.

I am planning to make use of the Question and Answer Department as a part of my language work for next year, correlating it with letter writing. We try to make this phase of school life practical, writing all letters to an individual or concern to whom they may later be mailed. Next fall, individual pupils are going to have home talks on vital questions relating to health and submit to the class questions to be sent by letter form to the Healthful Beauty Department of HYGEIA.

Most of all do the children enjoy the health land drawing pages. Even youngsters of slight artistic ability are encouraged to reproduce the caricatures of "Pleasant Temper," and "Merry Manners." These drawings not only entertain but unconsciously instil into the child's mind health facts to be retained a lifetime. A teacher may persistently lecture on the value of exercise and incidentally caution the child against exercising immediately after meals, only to find later that he has focused his attention with eyes alone, while the ears remained deaf to the fact she had been trying to impress. This same idea, portrayed through the medium of pictures and verse as the page in the June issue, "If You're Wise, You'll Exercise" may leave a lasting impression.

As HYGEIA goes hand in hand with current events, I find no trouble in correlating the two. We were especially interested in the poem "Balto" by Alice Rogers Hager in the April issue; we had been following the account of the carrying of antitoxin to Nome.

Your picture section is of value to us in making our pictorial geographical booklets. The picture of the mother taken in the fields of the Dukhobortsi settlement in British Columbia and the one of the bakers in Guanajuato, Mexico, were beneficial in our booklet

The "Good Health Elves" was dramatized and presented by the fifth grade hygiene class.

work, and aided us in solving our geographical problems about those two countries.

HYGEIA is an aid in conforming to the Wisconsin law, which requires a daily thirty minute class in physical training in every schoolroom in the state. In addition to our "Daily Dozen" and folk dancing, each child assumes the responsibility of procuring new gymnastics. The "Illini Eleven" were worked out, not only for the schoolroom, but were carried into the homes. Mimeograph copies were made of the "Illini Eleven" health habits and tacked to the children's bedroom walls. The idea was to get them to read and practice the exercises each day.

The only classroom subject in which HYGEIA has been of no aid is arithmetic. As a magazine equally adapted to all phases of the entire school curriculum, I know of none superior.

B. J. L.,
Richland Center, Wis.

Little Bohemia Learns Cleanliness

MY INTEREST in HYGEIA as a useful classroom instrument was first awakened by the health poster contest.

As a teacher in a rural school among children of Bohemian extraction, I had found it exceedingly difficult to arouse interest in our hygiene class. The children were an untidy, poorly nourished group of youngsters who thought their hygiene lessons were extra impositions placed on them by the teacher.

One day I told the children that the lesson period was to be spent making health pictures. These children love to draw, cut and paste and at once were wide awake. I then produced several copies of HYGEIA and explained to them what I meant. I showed them the health posters that other boys and girls had made. They immediately approved of the idea and urged by the motive, "Let's see if we can't think of something new and make even better posters than these," they started to work.

The class was divided into pairs and each pair was given five minutes to decide on the health rule they wished to develop in a poster. Ten days were spent in similar work, and each day brought out new ideas and points of interest. The children were asked to tell the class why they considered important the rule they had chosen. At the end of the ten days I offered a prize for the cleverest poster.

By this time I had an interesting display of posters about which visitors never failed to remark. But I was not satisfied, for I felt that what these children needed most of all was something to make them really practice all the slogans and rules. To meet this need, the class was organized into the Green Valley Health Club, for our school was known as the Green Valley school. Each member pledged himself to observe faithfully the important health rules.

The club met the second Friday afternoon of each month. The meeting consisted of club business and a health program. Each member told of one health fact that he had learned from the current issue of HYGEIA. (HYGEIA was always on the reading table and every member made it his duty to read it.)

Special health topics that I wished to emphasize were assigned to certain pupils to be prepared for class talks. Once a month I gave a short examination on the health talks, in order to test the children's retentive powers.

The Healthyland pictures and rhymes are a never ending source of enjoyment and knowledge to the little folks in my school. They are taught the rhymes in language class and draw the pictures to correspond during the language seatwork period. I have found the children's health stories of value as language lessons for the lower grades. All the children are interested in the picture section.

The children are beginning to realize the evils of patent medicines and fakes of all kinds. They have learned what they should eat and have interested their mothers in sending better lunches. Hot lunches were found to be an impossibility in this particular school, but the mothers now send bottles of milk instead of bottles of coffee or tea, and fruit in place of sweetmeats. The children come to school with clean hands, face, teeth and nails. They now make no objection to playing outside on winter days.

The HYGEIA health poster contest aroused the desire in each of these boys and girls to grow up to be strong, healthy men and women.

ALICE L. DANIELS,
Pine City, Minn.

Teaches Both Faculty and Boys

I AM a physical training instructor in the Prescott Junior High School, Oakland, Calif. In addition to having charge of the physical activities for boys, I am asked to give them one hour of health habit instruction each week; hence my direct interest in a magazine like HYGEIA.

The community here is ultracosmopolitan. One census showed twenty-six nationalities. So it can easily be seen that it is about as difficult to prescribe health rules that will be acceptable to all the nationalities as it was for President Wilson to put over his fourteen points at the peace conference.

I consider myself instructing a league of nations in matters of physical activities and health habits. Naturally, the problem of striking a working basis in matters of health rules for daily practice becomes more complex when the children represent so many nationalities, each of which has its own superstitions, traditions and notions. There are just six rules which I feel, if properly handled, would serve as a common denominator for this complex assortment of people. These are: 1. Wholesome food. 2. Fresh air. 3. Wise exercise. 4. Rest. 5. Control of internal forces. 6. Story of reproduction.

There are three main factors in getting a response from the boys: 1. Myself as instructor. 2. A faculty of fifty-four teachers. 3. The boys.

Since we have studied HYGEIA, *the little Bohemian children make no objection to playing outside on winter days. They desire to be strong and healthy.*

HYGEIA helps me put over the health program by helping me as instructor. I am thoroughly sold on HYGEIA; it actually lives and practices what it preaches in the large readable print, subject matter and advertisements. A health teacher needs reliable information, up-to-date material, and inspiration from the men and women who are on the firing front in this battle of keeping people well. There are many books and magazines written on matters of personal and public hygiene, but none seems to be as helpful as HYGEIA.

HYGEIA helps me to inoculate the members of the faculty with a common point of view on health objectives.

My boys come in contact with many teachers from the beginning of their school days until they graduate. Unless this faculty is inoculated with some unit of health teaching, there are apt to be many "isms" in health teaching.

I sell HYGEIA to the members of the faculty, and I don't stop selling it until I feel that each member is convinced of HYGEIA's value as a reliable source of up-to-date, scientific information. In this way, all members of the faculty strike a common viewpoint on health matters. Subsequent contact with the boys brings noticeable results.

HYGEIA helps me in actual instruction of the boys in getting over my health objectives.

Many very helpful articles are found in HYGEIA on the subject of wholesome food. This takes in such subtopics as diet, eating out of cans, washing fruit and vegetables before eating them, and household pests. I read those directly to the boys and then discuss them, bringing out all points related to the question. I also acquaint them with the authors of all the articles discussed. I believe it is a great part of a child's training to know the names of the people who are pioneering in this worth-while business of preventing sickness.

In this way, I can handle all the health rules I have outlined, and I always find helpful suggestions in HYGEIA.

I cannot help but sing HYGEIA'S praises. It has readable type, wholesome and clean advertising, and scientific and inspirational subject matter.

FRED A. BECK,
Oakland, Calif.

Hygeia Used as a Reference Book

I HAVE taught physical training, home economics and biology in a small town high school in northern Iowa for two years. These subjects were practically the only ones in our curriculum in which the science of health could be made a vital issue.

Those of you who have taught in towns of this size (about 800 inhabitants) know the difficulties a teacher must surmount because of lack of books and equipment. My school is no exception.

An enthusiastic friend of mine has supplied me with two copies of HYGEIA, monthly, during these two years. I cannot estimate the value I have received from that generous contribution. I have used my copies for reference in all of my classes.

The articles on food habits, dietary problems, or new discoveries in nutrition, I either read to my home economics classes or required the students to read. They utilized such material as they could in their notebooks and reported on the articles in class. Thus we obtained the latest information from nutrition experts, and my students discussed vitamins, calories, balanced diet, and bacteria as glibly and as intelligibly as college students.

Last year my physiology students entered the HYGEIA health poster contest. They had had no previous training in such work. We entered twenty-two posters and did not even get an honorable mention, but no student regretted the time spent, for valuable health lessons were visualized, imaginations stimulated and enjoyment experienced through the working out of original ideas. But those were not the greatest benefits. Through their poster work, the students became acquainted with HYGEIA. Since then they have been constant readers of this splendid magazine and their enthusiasm has induced our superintendent to agree to include it in the small list of magazines purchased by the school for student use.

In my physical training classes I have found HYGEIA invaluable. Practically all my inspiration for health talks and first aid lessons have been derived from this source. I have used HYGEIA constantly in my biology class this year, and it never failed to be received with enthusiasm. It was nothing unusual to have my students say, as I entered the classroom, "Please read to us from HYGEIA."

The articles in HYGEIA correlated splendidly with the work in our course. In our study of malaria and yellow fever, for example, the numerous articles on the history and control of those diseases in the tropics proved very helpful. Through HYGEIA my students were introduced to insulin, the cause of endemic goiter, and many recent scientific discoveries.

Occasionally I read articles from HYGEIA to the class, but for the most part they read the marked articles that correlate with their work, and any others which I suggest. Of those articles which I have read to the class, none was given greater attention than the series of enlightening revelations about mail order physical culture. I discovered that several of my students were readers of *Physical Culture,* published by Bernarr Macfadden. Some of the students had been taking it seriously. I was amused at the guilty expressions on the girls' faces when Boncilla Beautifier and other famous beauty frauds were exposed. I believe the corner drug store has had a noticeable slack in the cosmetic trade since then.

As a final problem in biology, I required term papers from all the members of the class, giving them a large variety of subjects from which to choose. What a scramble there was for copies of HYGEIA! At that time almost all of my numbers were used. Many interesting papers were written on insulin, vitamins, bacteria, antiseptics, mosquito control and ductless glands. Biographies of General Gorgas and Louis Pasteur were submitted, and much of the material for these was gleaned from HYGEIA.

I was amused at the guilty expressions on the girls' faces when famous beauty frauds were exposed in HYGEIA.

I did not restrict the use of HYGEIA in my own classes. I introduced the grade teachers to it, and they frequently consulted my copies for health hints. On one occasion they put on a HYGEIA health play that proved very popular.

I had hoped to have time through solicitation of subscriptions to introduce HYGEIA to the community, but my schoolwork occupied too much of my time for outside pursuits. However, I can truthfully say that HYGEIA has been of more service to me in my work than any other outside agency, and I believe I have, through it, contributed much to the health and health ideals of my students. I hope that it will eventually find its place in every school in the country, and through the schools finally reach the homes, where it cannot help but inspire the nation's families to better living.

HELEN G. LAMP,
Brandon, Iowa.

University Class Found Help in Hygeia

DO YOU have among your teacher acquaintances that individual who is always looking for new ideas and suggestions for her work? One who is continually testing the practical application of such material?

This characteristic has caused the writer, a teacher and a state director of health education, to apply the test to HYGEIA, using as her laboratory the home, the public schools and the departments of teacher training in the state universities.

HYGEIA, so the publishers say, is "an authentic health magazine. A journal of individual and community health, published by the American Medical Association. A monthly publication which discusses health in a new and interesting way. It is written in plain understandable language and contains a message for every member of the family." The practical application of these statements was the basis for the experiments. For women's clubs and school children the statement proved to be true. The following experiment was carried out when the magazine was used in definite teaching.

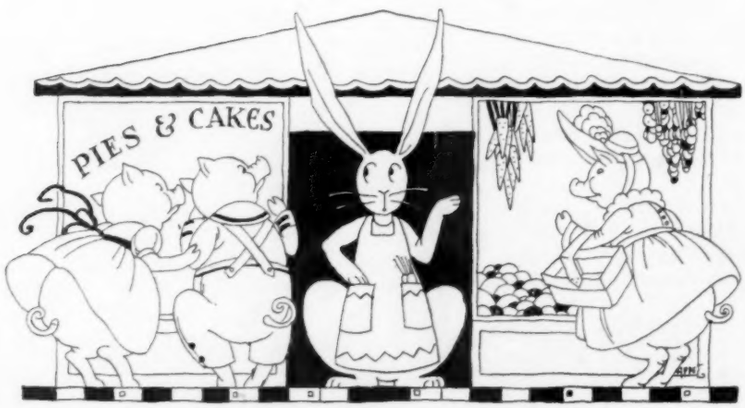
Members of the teacher training classes in health education at the state university summer school were interested in their own health. "Know your body and its needs, then build for strength, long life and service" was the individual aim of each member of these classes. Each class member was given a health examination by the university physician. An inventory was taken of personal health habits. A daily food chart was kept for a period of time. So HYGEIA was consulted for authentic, interesting and understandable discussions on all phases of personal health in order that the vision might be broadened and many erroneous ideas and superstitions expelled.

A list of health subjects that needed more stress in the class, as noted by the habit and diet survey, were selected by the instructor. This list included teeth, diet, rest, exercise, shoes, posture, and elimination. From several back issues of HYGEIA, articles were found on the various subjects listed, and a card index made of them. Each student was given from four to seven readings. One to two oral reports, taken from different writers, were given on each subject in the class period. This stimulated discussions on the part of all members of the class.

In a discussion on the eyes, the question as to the care of the baby's eyes at birth came up. There was a difference of opinion. The June issue of HYGEIA answered our question and helped more firmly to convince us that we needed HYGEIA for personal health problems as well as for our schools.

As a proof of this conclusion a group of fifty or more students in these classes subscribed to HYGEIA. A special drive for subscriptions to this magazine was made by members of this group during health week at the university. Two yearly subscriptions to HYGEIA were given as prizes in a health poster contest which was conducted during this week.

REBA F. HARRIS,
Jacksonville, Fla.



We learned through plays and stories a list of health subjects that needed more stress in the class.

Are Dried or Canned Fish Safe Foods?

T. C. GEIGER

THE IMPORTANCE of fish in the food supply of the United States is due to its excellence and variety, its abundance over a widely distributed area, and its relatively low cost.

To keep this source of food at its maximum possibility, the federal governmental agencies charged with this responsibility maintain hatcheries and are continually restocking the sources of supply. The various measures taken for the preservation of fish for human consumption are of equal importance. Canning leads the list. The other methods of preservation of fish are salt and brine freezing, freezing, drying and smoking.

Food spoilage and food poisonings are due to bacterial action. This is true of fish as of other articles of food. However, mere spoilage is not the cause of poisoning. There must be present certain species of bacteria for poisoning to occur. The use of any preservative is based either on its ability to prevent or arrest the growth of bacteria, or on the sterilization of the finished product. Each method of preservation carries with it certain important factors.

Cold

The method of using cold to preserve fish differs from the manner in which it is used to preserve fruit. Fish are kept at a much lower temperature—below the freezing point. The thawing of food after freezing must be carefully done, if the natural taste is to be preserved. Bacteria, as a rule, survive cold, but the growth of bacteria is arrested if a sufficiently low temperature is used. Many household refrigerators do not sufficiently inhibit the growth of bacteria in foods. Care should be used to keep the refrigerator filled with ice.

Salting

The use of salt as a preservative is an old and recognized method. Salt readily penetrates into the food by extracting water, but the ultimate effect is influenced by the purity of the preservative material used. Salt, like cold, does not destroy bacteria, but retards their growth. Because of this, care in cleaning the fish before salting is absolutely essential; the freshness and uninjured quality of the fish is essential.

Canning and Drying

The process of canning fish has greatly changed since 1843, when it was first introduced in Maine. It is now considered one of the most important domestic and international industries of the United States. The temperature, generally used under pressure, assures the public a safe product. Sterilization of the contents of the can is the object desired and secured. Here again, the freshness and uninjured quality of the fish being canned is fundamental.

Drying, whether by sunlight or by artificial means, is an old, well-known process of preserving fish. Drying reduces the weight and bulk of the original material and makes the product suitable for transportation purposes. The efficiency of the process depends on its rapidity.

Smoking and Other Means

The preservation of fish by smoking is due to the temperature involved and the action of the smoke substances, such as creosote, that may be present. The more rapid the process, the more likely is the destruction of the bacteria that may be present.

The use of chemicals and preservatives is as yet a legislative and physiological problem.

Canning under pressure offers the safest method for the preservation of fish. The temperatures used usually completely destroy any bacteria that may be present. The absolute safety of the process depends on the heat process used and the absence of defective cans.

Food Poisoning and Its Prevention

Food poisoning, as it is understood today, is the result, directly or indirectly, of the contamination of the food with certain bacteria. Certain fish are normally poisonous; these types of fish are reported to be found in Japanese waters. However, this species of fish is rarely, if ever, present in non-tropical waters.

An animal parasite, tapeworm, is found in fish and may infect man. Shellfish, such as oysters, may become contaminated with bacteria if the waters in which they grow are not properly protected from sewage pollution. Outbreaks of typhoid fever have been reported with oysters as a causative factor.

The thorough cooking of the fish before eating will prevent the ordinary type of food poisoning. Canned fish is ordinarily safe. Sanitary precautions are necessary for the protection of the public health from infectious diseases, such as typhoid fever, and from food poisoning, in the consumption of raw shellfish.

HYGEIA

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Plain Facts about Health and Disease

HEALTH NEWS OF THE MONTH

Immigration and Mental Disease

Thirty-eight million immigrants came to the United States during the hundred years ending with 1920, 70 per cent. of them in the last forty years. The number of persons in institutions for the treatment of mental disease increased about 600 per cent., or from 40,000 to 235,000 during the same forty years. It seems simple to trace a direct relation between the increase in immigration and the increase in mental disease. At the same time it must be recognized that the number of hospitals for the care of such patients has increased and that methods of diagnosis have improved. Thirty-three per cent. of persons admitted to mental disease hospitals in 1920 were foreign born, out of a population of which approximately 12 per cent. were foreign born. The new immigration law of 1924 may greatly reduce the rate of admissions to mental disease hospitals, but more reliance should be placed on the mental hygiene movement, which is now supported by six vigorous social organizations.

Prize for Visualizing Gallbladder

Two years ago, Drs. E. A. Graham, G. H. Copher and W. H. Cole, all of the Washington University Medical School, St. Louis, began research to make possible visualization of the gallbladder by use of the x-ray. Certain salts injected into the body are eliminated through the bile, which is stored in the gallbladder. Iodin and bromin salts are opaque to the roentgen ray. The St. Louis physicians secured a combination of these salts and obtained x-ray pictures of the abdomen in which the gallbladder, previously invisible because made of soft tissue, appeared almost as clearly as did the bones themselves. Stones in the gallbladder were localized by this method. At the meeting of the American Roentgen Ray Society in Washington, D. C., the committee decided to award $600 of the $1,000 Leonard Prize for accomplishment in the x-ray field to these investigators. The remainder of the prize went to G. Failla of New York for his work on radon. Radon is emanation from radium sealed in glass tubes. This emanation has much the same power as the radium itself in destroying malignant tumor tissue.

Disposing of Opium

Last year the American delegation to the Opium Conference held at Geneva, under the auspicies of the League of Nations Assembly Commission, urged the substitution of opium cultivation in Persia by some less dangerous agricultural product. This year a committee of the commission is visiting Persia in an attempt to put the plan into effect. Far too much opium is grown and manufactured for the legitimate needs of the sick. The plan to cut down production at the source seems a possible method for attacking the narcotic evil.

Pica

Some people have perverted appetites. Doctors class all sorts of disturbances, including anorexia, or loss of appetite, bulimia, or increase of appetite, and pica, or perverted appetite. Cases are known of children who eat dirt, hair, chalk and similar substances without any apparent reason, and queer appetites are found among hysterical women during pregnancy. Numerous cases are known of peculiar cravings in animals, including wool eating by sheep, egg and feather eating by chickens, and hair licking by furred animals. It is known that pigs, cats and rats sometimes eat their young.

In South Africa there developed among cattle a condition called depraved appetite, in which the cattle devoured miscellaneous rubbish, cinders, bags, condensed milk cans and even the washing from the line. Naturally, scientists have been at a loss to explain this condition. In some cases, cattle gnawed each other's horns and chewed old bones, developing from the infected tissue attached to such material severe

conditions which frequently resulted in death. Henry H. Green of the Division of Veterinary Education and Research in Pretoria, South Africa, classifies the chewing of bones under a special name and proves to his own satisfaction that it is the result of the craving of the cattle for phosphorus. When a sufficient amount of this element is added to the diet the disease disappears. It appears to be due to a lack of phosphorus in the soil. By some instinctive reaction, the cattle seek bones, which they chew and which provide the missing phosphorus.

Salt for Fatigue

Some years ago a German physician reported that workers in the mines could be relieved from fatigue by small doses of sodium phosphate. Now Professor Neville Moss of the University of Birmingham claims that miners become exhausted less easily when working in a temperature of about 100 F. when drinking water contains even one fifth of one per cent. of common salt. The British physiologist J. B. S. Haldane explains this as due to the fact that the salt added to the drinking water makes up for that taken from the body by perspiration. Scientists are inclined to regard the matter as empirical and await controlled experiments.

Infection from Books

Again and again the question arises as to the possibility of infection from books taken from public libraries. French physicians, Drs. Touchais and Morreau, have found germs of tuberculosis on the pages of books subjected to experiment after four or five months. Nevertheless, extensive studies made in this country cause physicians to believe that the chance of infection from such material is slight. Modern hygienists recommend only that books used by persons suffering with severe infectious diseases be burned if of little value, and be disinfected by thorough airing and sunning and possible subjection to formaldehyd vapors if of greater value.

Infected California Rats

Plague, most feared of infectious diseases, is spread by rats and ground squirrels. In stamping it out from California, where it last appeared in epidemic form, it has been suggested that rats be destroyed by infecting them with bacteria, which would be passed from one rat to another and thus bring about whole extermination. On the other hand, investigators for the state board of health find possible contamination of human food from such infected rats. Experiments failed to demonstrate any great efficiency in the so-called exterminators, but showed that they might lead to the production of a chronic carrier state, and that bacteria thus carried could cause food poisoning. The state board of health has ruled against the sale or exposure for sale of such bacterial rat exterminators.

M. F.

MORTUARY NOMENCLATURE

IN THIS period of active growth of our language, when real estate men have become "realtors" and beauty experts and hair dressers have become transformed to "cosmeticians," the sad and lowly undertaker is reaching for higher things. What used to be the Undertakers' Association is now known as the "National Selected Morticians." The word, "undertaker," has been discarded for "mortician" or "funeral director," coffin has become "casket," and the hearse is now known as the "limousine funeral car" or the "casket coach." The undertaker's parlor is now a "mortuary," "chapel" or "funeral home," and what used to be spoken of in a hoarse voice as the corpse or the remains is now substituted by "body" or "patient." Even the morgue, which had good scientific status, now bears the perfumed title of "preparation room" or "operating room." Nothing is said as to the increase in fees that accompanies this new status of an old profession.

M. F.

ATHLETIC LIMITATIONS

HUMAN interest in sport and athletic accomplishment has made it inevitable that scientists should endeavor to determine the maximum speed that a human being may be expected to attain in running a certain distance; the maximum height or distance that a man may jump; whether or not it will be possible for a woman to swim the English Channel, and similar questions.

Professor A. V. Hill, noted British physiologist, believes that the answers to all these questions lie in a complete understanding of what we call fatigue. Among the varieties of fatigue he lists that resulting in a short time from an extremely violent effort, and that which follows a lesser effort conducted over a long period of time. Both these forms are essentially muscular fatigue. In addition there are such factors as blisters, soreness, stiffness, nervous exhaustion, sleeplessness and changes in the body which will influence the type of effort that the competitor puts forth. The first form of fatigue is

measurable and laboratory investigators have already accumulated much interesting data concerning it.

The athlete indulging in strenuous effort uses up oxygen. Obviously, if he puts all he has into the effort he will use up his oxygen reserve and actually incur an oxygen debt, taking this element from his tissues. It is possible to measure the oxygenation of his tissues and to determine to what extent he has given himself wholly to the contest. As Professor Hill points out, a man cannot exhaust himself wholly in a one hundred or two hundred yard race, but a quarter mile race in the case of a first class sprinter is enough to produce complete inability to make any immediate further effort. In one man an oxygen debt to his body of 10 liters was found after he had run a quarter of a mile in fifty-five seconds. After an oxygen debt of 15 liters is incurred the man is unable to make any further effort. Now since men have run the quarter mile in less than fifty seconds it is clear that other factors enter in, but obvious that under present conditions something not far under fifty seconds is the maximum speed for the quarter mile race.

Some interesting comparisons were afforded by checking the records made by women with those made by men. In swimming, the maximum speed for a woman was 84 to 85 per cent. that of a man, and in running almost 79 per cent. that of a man. For very short distances, however, the ratio is greater; a woman's speed may attain 84 per cent. that of a man.

Professor Hill does not neglect the factor of form or skill in attaining a perfect performance. He finds, however, that such skill has both physiological and psychological bases and that these things can be definitely determined. They include such factors as correct adjustment of effort, perfect timing, and elimination of unnecessary movement and vibration. Assuming that these factors are perfectly controlled, it is possible to estimate the maximum effort that any individual may put forth.

Experience in running long distance has shown the advantages of a fast start. By many athletes, the psychological advantage of such a start is given undue prominence. The physiologists have found that the sooner the respiration and the circulation are driven up to their maximum values, the greater will be the amount of oxygen taken by the body, and associated with this, the greater the amount expendable during the race. Therefore, the practice of starting a long distance race fast and then settling down to a uniform speed has much to commend it from the scientific point of view.

One of the finest examples of the application of the scientific method to the affairs of ordinary life is the analysis of the attainment of maximum distance in the broad jump. It is well known that success in broad jumping involves learning to jump high. It is equally important that the broad jumper attain great speed before leaving the ground. Just before rising, he naturally must check his speed, but he attains a velocity, if he is a championship jumper, equal to that of a man completing the one hundred yard dash. De Hart Hubbard, champion broad jumper of the world, who has leaped almost twenty-six feet, is also holder of numerous records for the short dash. Professor Hill calculates that the broad jumper must reach a height 5 feet 9 inches in the air in order to reach the distance that he actually covers; that is, his center of gravity must be nearly six feet in the air if he is to remain for 0.85 second above the ground traveling at a velocity of one hundred yards in ten seconds if he wishes to jump twenty-five and one-half feet. Probably De Hart Hubbard has never taken the trouble to look into these calculations, but that is the consummation he achieves when he makes his record breaking jumps. The analysis is an indication that the athletic performance is a science as well as an art.

M. F.

HOT AIR COMFORT

WITH THE coming of winter, the ventilation of the home is one of the most important matters confronting the householder. Americans of a few generations ago lived in rooms of a temperature around 55 degrees F. Heat in those days was supplied largely by open fire places and not by the refined devices of modern life. A temperature of 55 degrees in those days was as comfortable as the 65 to 75 degrees under modern conditions.

Dr. Thomas Hubbard points out that conditions in America are far different from those abroad. American tourists usually complain of the cold in English and French hotels and museums, and British visitors find American rooms vitiating.

Water vapor is necessary for health and comfort. Seventy-four degrees of temperature and 20 per cent. relative humidity is quite comfortable, as is also 70 degrees temperature with 46 per cent. relative humidity. It is inconvenient to maintain a relative humidity above 40 per cent. in ordinary homes, so that we tend to keep our rooms about 75 degrees with 20 per cent. relative humidity. Dr. Hubbard points out that this hothouse coddling is largely responsible

for vagaries in modern wearing apparel. The high temperature standard tends to lighter clothing.

Dr. Hubbard believes that ventilation is of less importance in providing good air in the home than is proper air conditioning. The use of an evaporating pan so as to provide sufficient humidity will permit comfort with lower temperatures. Steam and hot water heat systems depend on leakage and natural ventilation for air renewal. A house heated by radiators can become as dry as one heated by a hot air furnace system. To secure sufficient humidity, it is necessary to evaporate gallons of water daily from pans on the radiators. The most efficient method, Dr. Hubbard believes, is the warm air recirculation system, which combines healthful humidity with fair ventilation.

The frequent opening of windows permits the influx of air from outside and helps to restore oxygen, but does not materially affect the moisture content because the water vapor content of cold air is very low. Nevertheless, ventilation should be practiced consistently for such benefits as may be obtained.

Specialists in diseases of the nose and throat are inclined to attribute the frequency of acute and chronic diseases of the breathing tract to unhygienic heating. The present high temperature standard tends to lower the body's natural resistance to minor and major infections. M. F

THE BIRTH CERTIFICATE SHOULD REPORT DEFORMITIES

THE Michigan Department of Health has recently added to the birth certificate form used in that state the question: "Was there any serious deformity or defect?" The purpose of securing this information is to locate crippled children as the first step toward their better care. Every careful physician who attends a mother in confinement examines the infant to see if there is any deformity. He may then advise the parents as to its nature, its effect on the future welfare of the child and the necessary measures to be taken for the correction of the deformity when it is remediable. In many cases the necessary corrective procedures, surgical, orthopedic or otherwise, are difficult, protracted and expensive.

The parents of many such children are unable to bear this expense without undue hardship. To meet the needs of crippled children, agencies have been formed in Michigan and other states to assist parents to secure the treatment required in these cases. If these organizations are to reach all of the crippled infants (and it is important in many cases that they be seen early) information as to their deformities must be reported at the time of birth. The early correction of remediable defects in infancy frequently saves the state the cost of maintenance for life of a confirmed cripple. The birth certificates in every state should include a question about the presence of physical deformities. J. M. D.

MOTHER'S MILK

NURSING of the baby by its mother is possible in the vast majority of cases. Furthermore, most mothers can continue such feeding of the infant for from six to nine months or longer. The method can be popularized by the right sort of campaign in any city or community; and it ought to be, for physicians are agreed that it is the most potent preserver of the health and life of infants under the age of one year. The later fact was demonstrated on a large scale a few years ago by the late Dr. Sedgwick of Minneapolis. A more recent demonstration of the same sort was made in Nassau County, N. Y., in 1924, by Dr. Richardson of Brooklyn, N. Y.

Certain conditions are essential to the success of such a campaign. First, a group of physicians must be convinced of the advantages of breast feeding and become enthusiastic about it. The good will and cooperation of any doctor can usually be secured by consulting him in advance as to his willingness to have a health nurse follow up the case of any infant in his practice, and work with him to educate the mother.

Second, the births in the community must be promptly reported to the health department and a nurse at once assigned to the case. A delay of five or six weeks means that often the baby will have been weaned before the nurse has seen the mother.

Third, there must be nurses controlled by some organization, with a knowledge of breast feeding, and sufficient in number to insure visits to each new mother to instruct her as to the vital importance and in the proper method of breast feeding.

The results of such an experiment should be evaluated, not by the physician attending the case, but by an impartial professional statistician.

The results of the trial of this plan in Nausau County were most gratifying. Two thousand eight hundred and fifteen babies were studied. Ninety-two and one tenth per cent. of the mothers nursed their babies for at least the first month of life, 87.2 per cent. for two months,

70.1 per cent. for six months, and 59.6 per cent. for nine months. The mortality rate of this group of babies was 49 per 1,000, in contrast with a rate of 72, the average for the county in the preceding three years. Quite as noteworthy was the effect on sickness or morbidity rate. Thirty-seven per cent. of the children prematurely weaned became sick, as contrasted with 12.5 per cent. of the breast fed. The children who had mother's milk were less susceptible to disturbances of the stomach and bowels, bronchitis, pneumonia, colds, and infectious diseases.

It is unfortunate if the discovery of new and better methods of artificial feeding of infants should have resulted in the dissemination of the idea that artificial foods are satisfactory substitutes for breast feeding. They are not. No fact has been more conspicuously demonstrated than that there is no complete substitute for mother's milk. Every woman owes an imperative obligation to her child—that she nurse him—and practically every woman can do so. Breast feeding must be universal. J. M. D.

THE VENEREAL DISEASE PROBLEM

DURING the last seven years notable progress has occurred in the solution of the venereal disease problem. The "conspiracy of silence" which relegated these topics to the realm of the unmentionable has been largely overcome. The dispelling of the extensive veil of ignorance, prejudice and aversion with which the problem was surrounded has been a significant part of the general public health educational scheme. Thousands of long concealed infections have been brought to light and placed under treatment. More and better diagnostic and treatment facilities have been developed and put to use, and provision has been made for the statistical reporting of these along with other dangerous communicable diseases. Medical science is well armed for the conquest.

Venereal diseases are among the greatest of evils, not only to the individual, but also to the race.

Great economic benefit results from venereal disease control. Venereal infection is responsible for a tremendous cost to industry. It has been estimated that the number of working days lost each year by the workers in manufacturing industries alone is over 15,000,000. Besides the loss of time and the consequent loss of production, there is the cost of property loss as a result of industrial accidents, of which there are an increasing number traceable to venereal disease. Delayed recovery from minor accidents to infected employees swells the total which must be expended in disability insurance and compensation claims. The increasing interest of industry and of organized labor in venereal disease control through government and state activities is indicative of its practical value.

Of still greater importance than this saving, however, is the lightening of the burden of human suffering and misery. The relation of syphilis to insanity with its attendant cost in money to the taxpayer, as well as its cost in human sorrow and tragedy, to say nothing of its blighting effect on family life; the relation of gonorrhea to blindness, that most tragic of all afflictions; and the relation of both diseases to the vast amount of chronic invalidism, sterility, crime and poverty are well established. Specialists in psychiatry are aiding in solving the problem of preventing delinquency, and it is significant to note that the control of syphilis has been declared "the first high point in preventive psychiatry."

The accomplishments of the last seven years affirm the productiveness of the efforts thus far made to combat the venereal disease menace. This public health effort is obviously an essential activity on every health service. H. S. C.

LOSING WEIGHT

THE PRESENT fad for thinness has resulted in the adoption of all sorts of queer methods for quick reducing. Patients, mostly women, are constantly besieging physicians for advice on this subject, and for their opinions of methods practiced by others than physicians who devote themselves wholly to weight reduction methods.

One of the methods most commonly used by the reduction specialist is the application of steaming, baking or bathing apparatus that causes the removal from the body of a considerable amount of water. If the naked body is subjected to dry hot air for an hour or more, it will lose about 600 grams, which is the equivalent of a little more than one pound. The ordinary loss of water from the body in a room heated to ordinary temperature is some 40 grams an hour, equivalent to a little more than an ounce. The applicant for weight reduction is usually greatly pleased by this rapid loss of weight. However, since it represents only the removal from the body of a certain amount of fluid, the weight loss is quickly restored by the ordinary diet of the body. Even were this not the case, the constant loss of water from the body without restoration may result in serious damage. M. F.

The twins thought it was great fun to play out in the back yard under the big oak tree.

The Wonderful Adventures of Fuzzy and Wuzzy

JANE PINE

THIS IS a story about Fuzzy and Wuzzy, the Barker twins. Their real names were not Fuzzy and Wuzzy, but Annabel and William. But they were the most adorable twins ever known, so thought their mother, so she named them Fuzzy and Wuzzy. They were lovely children, with curly brown hair, and round pink cheeks, and they were *usually* very well behaved. On the word *usually* hangs a story that I know you will want to hear.

Now remember, Fuzzy was the little girl, and Wuzzy was the little boy, and they lived in a beautiful little town not far from where you are living right now.

It was a regular day—just like any other day, not too long and not too short, not too hot and not too cold. It was an October day, and the twins were busy all day playing in the yard under the big oak tree, and building huge piles of leaves, only to scamper through them and scatter the brown leaves in all directions. Pretty soon the sun began to go down and the air started to get cool. Mother Barker came to the door and called the twins to supper. She had to call many times, and while the twins heard her and answered her every time she called, they just did not want to leave the leaf pile and go into the house. They were *usually* (how that word keeps in the story) obedient children, but I guess all children hate to stop playing *some* days, even though it is a regular day. But after a while they came s-l-o-w-l-y into the house, and mother called, "Please, dears, wash your hands and faces, for supper is ready."

Fuzzy looked at Wuzzy and Wuzzy looked at Fuzzy and they grumbled and growled a lot, for they *usually* did not like to wash. But they were as hungry as two little brown bears, so they grumbled only a little more, and washed themselves only a little bit—just enough so that mother would not scold them about it—the dirt, I mean.

The twins had a fine supper, with cookies and prune whip for dessert, and then mother read to them for a while. Soon she noticed that the twins were as sleepy as they could be and still be awake. That's what the fresh air had done to them; it had made them hungry and sleepy.

Now the twins prided themselves on being old enough to put themselves to bed, so they got into their nighties and opened the windows, and

Fuzzy got into her bed, and Wuzzy got into his bed. "Good night, Mother," they called. And mother answered, "Good night, dears. Did you wash your hands and faces and scrub your teeth?" Then Fuzzy looked at Wuzzy and Wuzzy looked at Fuzzy and each sighed, for they had not washed faces, hands or teeth. Now it was most *unusual* of the twins to tell fibs to mother, but they were so tired and sleepy, and it seemed such a useless business, this washing and brushing and scrubbing, so after a small silence Wuzzy whispered, "Let's tell her 'Yes,' and then tomorrow morning we can clean up twice as good and she won't ever know." Well, that seemed to make Wuzzy feel better about fibbing to mother, so he spoke up for the two of them and said, "Yes, mother." Fuzzy felt that she ought to tell her mother the truth, but she was almost too s-l-e-e-p-y and so she took Wuzzy's word as final and rolled over in her little bed. Just as she closed her eyes she heard some one say in a little voice:

"Are you the Barker twins, Fuzzy and Wuzzy?"

The twins jumped right up and called out: "Yes, we are!" There, right on the window sill was the funniest little fellow. He was all brown like an oak leaf and he seemed to have no legs at all, or else he was sitting on them. No, he was not sitting on them, for he sort of floated down from the sill and sat on the floor, looking for all the world like nothing they had ever seen before.

"Who are you?" said Wuzzy, for he really was surprised.

"My name," he answered merrily, "is Not-What. No, I mean What-Not—I'm always getting that mixed."

"Oh, what a funny name," laughed Fuzzy.

"Well, that's my name," said the little man, and he looked sad and hurt because Fuzzy had laughed at him. "But if you don't like it, I will——"

"Oh, please, don't go away, Mr. What-Not," said Fuzzy, for she thought he was going. "I didn't mean to laugh at you, I was only laughing at your name, and it *is* a funny name. But," she hastened to say, "I won't ever laugh at it again."

That seemed to please the little fellow, for he floated close to Fuzzy's bed and said: "I'm off for an adventure, will you go with me?"

"What's an adventure?" asked Fuzzy.

"A trip, a trip," said What-Not, "and I'll take you both with me. I have a big oak leaf for each of you. You can ride with me, if each one sits on one of these leaves." And he held out in his hands two oak leaves that looked like two of the oak leaves from the tree in the twins' yard.

This was too much for Fuzzy; she squealed with laughter at the idea of sitting on an oak leaf. But she did not laugh out loud for she was afraid What-Not would have his feelings hurt again and would leave them. Suddenly the leaves seemed to be growing bigger, or the twins were getting smaller, for they climbed on the oak leaves just as easy as if they had been climbing on oak leaves every day. They started sailing around the room on the little leaves without a bit of trouble.

"Come on," said What-Not, finally, "it's getting late, and we won't have time if you don't hurry."

"Time for what?" asked Wuzzy as they floated out of one of the open windows.

"I don't know," said What-Not, "but we haven't much time."

The moon was big and round and white, and was winking at them as they sailed along. The twins thought the moon looked *unusually* bright and happy. What-Not saw them looking at the moon, so he said: "Well, if you like we shall start our adven——, trip, I mean (looking at Fuzzy) by making a visit to the moon."

The twins had often heard about people who cried for the moon, but they never thought they would get a chance really to visit the moon. And just like that, they were near the moon. The Man-in-the-Moon was quite gracious.

"It's such a clear night that I really felt forlorn. I thought I would have no visitors at all, not even the clouds. You are doubly welcome, What-Not, and so are your two little friends."

"What makes you shine, Mr. Man-in-the-Moon? asked Wuzzy.

"Well," he said, "it's because What-Not and his helpers come up here every day, just before sundown, and wash me. Then I am all nice and clean, and I shine like everything. I have no arms, like earth children. It's a big job, as you can see, and sometimes What-Not is so busy with other things that he don't get any of me washed, and at other times he gets only a little bit of me washed before it is time for me to go to work. Oh yes," he hurried on, "we all have to work——"

"Mr. Man-in-the-Moon, we will have to go," said What-Not. He knew what a terrible talker the moon man was, and he *did* want to take the children other places on the adventure. "Now I guess we will have to tell you good night."

"Good night," said Mr. Man-in-the-Moon sadly. "I hoped you would stay a long while. I will expect you tomorrow."

The twins had often heard about people who cried for the moon, but they never thought they would get a chance really to visit the moon.

"Good night," called the twins.

"My, my, but he surely is bright. You must have washed a lot of his face, What-Not," said Fuzzy. "We'll have no trouble to find our way around tonight."

"Hurry, hurry," said What-Not. "We won't have time if you don't hurry."

"Time for what?" asked Wuzzy.

"I don't know," said What-Not, "but we haven't much time."

And there they were, just like that, right among a great lot of clouds. They were the loveliest, soft, fleecy, white clouds, just like the soft, fleecy blankets that mother covered them with in cold weather, but really twice as soft, for you could poke your finger right into them—the clouds, I mean.

"The clouds don't have much to say," said What-Not. "They really are nice and ladylike until the winds start to blow, and then it causes me a lot of trouble to keep them all together."

"What makes them so white, and soft, and fluffy?" asked Wuzzy.

"Well, I sweep them clean every day," said What-Not. "And when they have wandered far away with one of the winds and are too dirty to be swept clean, then I have to take my watering can and scrub them all up again."

"Is that what makes rain and showers on our street?" asked Fuzzy.

"Yes," said What-Not. When they get dirty and I have to use a lot of water, they don't seem to like it a bit, and grumble something terrible."

"Oh," said Fuzzy, "and that's the thunder!"

Well, this surely was an adventure, thought the twins. They had learned ever so much, just about the moon and why the moon shines, and about the clouds—what makes them dark one time and as white as snow the next.

"Do you see that little pool down there?" asked What-Not. "We will go there and pay a visit to Tommy Cat-Tail. He is an interesting fellow. He is proud, but really has high ambitions."

(To be continued.)

Are you following the adventures of Fuzzy and Wuzzy? Next month they will visit Tommy Cat-tail and learn a lot of wonderful things about bad habits and good habits.

HEALTH NEWS AND VIEWS

FLAPPER "PEP" MAY BE THYROID DISEASE

The girl with too much "pep" and the woman who scolds all the time may both be merely victims of a disease of the thyroid gland, which afflicts women more often than it does men. Such is the opinion of Dr. C. Macfie Campbell of Boston, who has made an extended study of the physical disturbances in diseases of the glands of internal secretion.

Thyroid happiness resembles more the stimulation produced by strychnin than that of alcohol, and the excessive talkativeness differs from the aimless ramblings of a crazy person by the fact that it is intelligent and directed. Too much thyroid activity often causes irritability, and Dr. Campbell says it is not to be wondered at that in the home of the hyperthyroid woman marital complications are not infrequent, even with a long suffering husband.

NO CUSPIDORS

A striking feature of the new union railway station in Chicago is the absence of cuspidors. The habitual spitter fails to locate one even in smoking and rest rooms. This fact is a distinct tribute to the advancement of sanitary customs of the public.

Not so many years ago a railroad station of whatever magnitude and architectural splendor would not have been complete without its array of shining spittoons. The absence of cuspidors in Chicago's splendid new terminal is an eloquent announcement that people are not expected to spit. Even the most hardened addict to careless spitting would not expectorate on the spotless marble floors of this new railroad terminal.

Application of advanced sanitary ideas did not stop with spittoon elimination from the new station. Drinking fountains, doing away with the necessity for cups, are found at convenient places. Lavatories, with liquid soap equipment and paper towels, make it possible for one to wash the hands and face without any dangerous contact whatsoever with any person who used these facilities beforehand. Toilets are of the most modern type, clean and easily kept that way. Compared with the old union station or almost any railroad depot built more than a decade ago, this new terminal is a revelation in the advancement of sanitary and hygienic knowledge and practice and in architectural splendor.

The builders of the new union railroad station have not set up a new standard of depot sanitation. They have merely met the public demands on this subject.

CHILDREN OF TUBERCULOUS PARENTS

Infants born of tuberculous parents have slight chance of escaping death from tuberculosis if they remain in contact with the afflicted parent, says the Connecticut State Department of Health.

Babies do not inherit tuberculosis, but almost all become infected and many of them die if left in continuous contact with tuberculous parents. The results would be similar if other tuberculous patients were closely associated with them in the home. The question is one of exposure to the disease rather than inheritance. The remedy for this condition would be to remove the child from its home of birth, unless the tuberculous patient goes to a sanatorium.

Charles H. Adair

NOW WE HAVE THE HEALTHMOBILE

The head of the health and physical education department of the Los Angeles, Calif., schools conceived the idea of carrying the story of the benefits of good health and correct exercise to thousands of school children in outlying districts. The result is the Healthmobile, a traveling clinic with a staff of trained doctors and nurses. The most important service of this clinic will be the work of the dentist and the oculist. Children who are round shouldered and have flat feet will be given special instruction and exercises to correct their defects. The Healthmobile takes care of the indigent physically defective children in school centers where it is not practicable to establish a stationary health center. The Healthmobile is unique, and solves school health problems that could not otherwise be met.

FATAL ACCIDENTS IN MIDDLE LIFE

Approximately one fatality out of each five among persons between 20 and 50 years of age is caused by violence—accident, murder, suicide—according to the annual mortality statistics for Illinois.

Violence outranks by far any other single means of death among people in the most productive period of life. Heart disease, nephritis and cancer, the three leading causes of death last year in the order listed, do 80 per cent. of their destructive work among those who are more than 50 years of age. Violence, which ranked fourth among mortality causes, found its victims among the younger, able bodied population.

SUNLIGHT AIDS SCHOOL WORK

Children handicapped in school work by illness, when cured with the aid of sunlight, caught up with or outdistanced their classmates, according to studies by physicians and scientists in England reported at the Congress of the Royal Institute of Public Health. Sunlight, either natural or artificial, when properly administered, has a definitely beneficial effect on mental activity.

BABIES ENJOY CART RIDING

The Willesdon Guardian's Home at the Park Royal Hospital, England, has a giant cart that holds 18 children. It is a gift to the children and each morning a nurse leads the cart around the hospital grounds to the joy of the little tots.

SWIMS A MILE A DAY

There is nothing remarkable about swimming a mile each day, but Mrs. Jennie Burnap is 60 years old. She is an instructor in the public swimming pool, New York City, in charge of the afternoon hours for children. Here she is seen with one of her little pupils.

MEAT CARVING COURSE FOR HUBBY

Now, when the head of the house is called on to carve, there need be no qualms. A course in meat carving has been inaugurated by a school of domestic science, Chicago, and from the number of men in the course, it is evident that there is a need for this important home virtue.

Photos from Pacific and Atlantic

A LITTLE MOTHER OF THE DARIEN

This 14 year old Indian mother carries her baby on her back and drags a fifty pound sack of vegetable ivory nuts. The work of providing for her family continues from sunrise to sunset. Note the 6 year old boy carrying a sack larger and heavier than himself.

Knight

A PUBLIC SCHOOL IN THE UNITED STATES

Yes, this is a public schoolhouse in a progressive community of one of the Southern states. It was taken by a school nurse, who says: "We have to live with the pupils sent out from such a school. Can we, as a matter of self-protection, allow this kind of type of school to continue?"

EVEN PAINTERS USE THE FLOOR IN JAPAN

The Japanese sit, sleep and eat on the floor. This picture shows they paint from the floor as well. These artists are preparing paintings for the annual fine arts exhibit.

Pacific and Atlantic

QUESTIONS AND ANSWERS

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a two-cent stamp. If the question is of general interest, the answer will be published; otherwise it will be sent by mail. Questions are submitted to recognized authorities in the several branches of medicine and answers framed by them. The names of correspondents will not be published. Diagnoses in individual cases will not be attempted nor treatment prescribed. Answers to questions relating to beauty will be found in the "Healthful Beauty" department of this magazine.

Inoculation for Whooping Cough

To the Editor:—There is an epidemic of whooping cough in our town and I am afraid my little girl, seven years old, is taking it. She has been coughing some for three days. One of our local physicians says that if the serum is given when the child begins to cough, the attack is not so severe; another of our physicians does not approve of inoculation. Please let me know as soon as possible about the serum.

J. S. B., Penn.

Answer.—There is no serum of any kind for whooping cough. Opinion appears to be divided as to the value of vaccines in whooping cough, both for preventive and curative purposes. Serums are made by injecting horses or other animals with germs and taking the fluid matter of the blood, which contains the antisubstances, after the animal has developed resistance to the disease. Vaccines are the killed bacteria that cause disease. Many physicians of large experience in whooping cough have tried vaccines on patients and found them of no value. Others believe they are distinctly serviceable. The x-ray has recently been used by a number of physicians and favorable results have been reported.

Perspiring Hands

To the Editor:—I am troubled with perspiring hands in the summer time. I have tried one or two solutions on my hands but to no avail. Could you advise any treatment?

L. L., New York.

Answer.—The treatment of excessive sweating depends to some extent on the cause, which unfortunately cannot always be ascertained. Physicians usually recommend that the hands be washed from four to six times daily, and, after thorough drying, treated with astringent lotions and medicated dusting powders prescribed by the physician to suit the individual case.

Cold Cream

To the Editor:—In one of the recent issues of HYGEIA I find the advice to use a "good cold cream free of miscellaneous medical ingredients." (1) Will you please let me know what company sells this kind? I notice that the Armand Company advertise cold cream in your pages. (2) Is this a good cream, cleansing to the skin and also harmless? (3) Does cold cream clean the dust and powder out of the pores of the skin? (4) Should it be used instead of water and soap on a dry skin? (5) Are the cold creams put out by Colgate, Pond, Armand, Hudnut (Three Flowers), Melba, and Dagget good for cleansing the face? (6) Which is the purest and best? (7) Is there any cold cream better than these? (8) I would like to know the best cold cream for cleansing dust from the face, and to help prevent sunburn.

A. B. C., Chicago.

Answer.—Cold cream is standardized by the inclusion of it as an official ointment of the United States Pharmacopeia. It is something, therefore, that every druggist is supposed to be able to prepare. In the last few years, however, many manufacturers of cosmetics and people who call themselves beauty and cosmetic specialists have exploited cold cream for all sorts of so-called beauty uses, most of which are useless. A habit that was formerly confined to a few misguided individuals of not using soap and water on the face but washing it in cold cream, has become widespread. The result is that tons of cold cream are used now where pounds were formerly used, and cold cream is made by many manufacturers a good deal like toilet soaps are made. These cold creams have in general no advantage except that they are standardized in manufacture and can be produced cheaper than the individual druggist can produce a cold cream. The only safety in choice of a cold cream is, as in that of choosing a soap, the honesty and responsibility of the manufacturer. After care has been taken in that respect, one is justified in selecting the brand of cold cream that pleases her. There is only enough preservative put into most of them to keep them from deteriorating. This is not likely to be damaging to the skin.

The best way to clean the ordinary dirty face is to wash it with soap and water. An occasional greasing—say not oftener than once in two or three days—with cold cream, before washing, may help to get rid of dirt that is more readily soluble in grease than in soap suds, but most complexions do better if they are washed with soap and water. Then, if there is a tendency to dryness of the skin, some chapping or irritation from sunburn, there is no objection to greasing the skin lightly with cold cream. But smearing the skin with a thick layer of cold cream either as the routine way of washing it or in order to nourish the skin is an ignorant, dirty and, not infrequently, harmful procedure.

Reducing in Spots

To the Editor:—Is there any way to reduce in spots? My hips and upper arms are too stout and when I reduce all over, my face gets thin. I do my own housework so my arms are moving practically all day long.

Mrs. H. C. B., New York.

Answer.—It is difficult to reduce in spots. Obesity is the result of some general disturbance, so that not much can be expected from reducing methods which are not general in their nature. It is probably true that very carefully directed and controlled local treatment—massage and active muscle movements—when used to supplement general treatment may be of some value in the removal of local fat deposits.

S-ray or Simpson Light

To the Editor:—Please send information relative to the value of treatment by S-ray or Simpson light. An advertisement in the paper indicated that it softened hardened arteries, cured stiffness and swelling, and restored cripples to suppleness.

Mrs. I. D., Ohio.

Answer.—So far, nothing has been found that will soften hardened arteries, cure stiffness and swelling, and restore cripples to suppleness. It is perfectly true that properly directed light treatment of various sorts

frequently gives very excellent results in alleviating symptoms. However, in order to get any benefit from light treatment, it must be done under the direction of a physician who has made a complete examination and knows your physical condition thoroughly.

High Blood Pressure

To the Editor:—Can high blood pressure be cured or relieved by the use of radium or radio water?

M. P. O., N. C.

Answer.—Radium or radio water may have some effect in reducing high blood pressure. Many other things can cause a temporary reduction. No form of treatment should be undertaken for high blood pressure except under the advice of your physician. As a matter of fact very little is known of the effect of radium or light in most conditions, and it is probably true that much more is being claimed than is justified by the present state of our knowledge.

Cysts of the Breast

To the Editor:—About six years ago (when I was thirty-four years old), I discovered one small lump in my right breast. There was no pain or soreness. I went to a surgeon for examination. He stated that the lump was in all probability harmless, but advised an operation as a matter of precaution. When the operation was performed, two quite small lumps were taken out. A microscopic examination showed them to be cysts. Three years ago, small cysts appeared in the left and right breasts. I had them operated on. Now there is another cyst in my right breast. I am sure that my surgeon will advise another operation in order to be on the safe side. I have been told that x-ray can be used, but that it has a tendency to harden the tissues so that a possible future operation might be more difficult.

I am writing to ask: 1. What causes cysts in the breast? 2. In view of the history of this case, would it be considered safe to do nothing? 3. Is there any method of treatment besides surgery and x-ray, and which is the better treatment?

E. O. L., Washington, D. C.

Answer.—Cysts of the breast may be due to stopping of the milk duct while the terminal continues to function. 2. It is not considered advisable to neglect cysts. It is believed that cancer may arise from these cysts in some instances. 3. There is no method of treatment so efficient as surgery. 4. At forty years of age the lactating period has passed, as a rule. There is a plastic procedure developed for this very type of case. A curved incision beneath the breast is employed. This incision is later hidden by the drooping of the breast. Through the half-moon incision, the breast tissue is readily removed leaving the nipple, areola and skin over the breast intact. The rotundity of the breast is reestablished. An experienced surgeon can restore the contour until it is almost identical with the normal breast. A procedure of this type once and for all terminates the disturbance.

Lupus

To the Editor:—Starting with a tiny spot on the bridge of the nose, a condition called lupus has covered the nose and spread over each cheek bone in two and a half years. Ultraviolet ray treatments have been used for more than a year with no apparent improvement.

1. Would you please advise a treatment for lupus? 2. Would a diet rich in vitamins and cod liver oil be of benefit? 3. What is the cause of the disease and is it communicable?

F. E., Wyoming.

Answer.—The disorder described apparently is lupus erythematosus. 1. The treatment depends on the stage and the character of the eruption. Physicians usually recommend the use of radium, but carbon dioxid snow and phototherapy are also of service. None of these should be used in the early or active stages, and none should be used except by a physician of large experience in treating skin disorders. Occasionally the removal of infected tonsils or teeth has a beneficial effect on lesions of this disorder. 2. A well-balanced diet is correct for all persons. 3. The disease has multiple causes. It is not communicable.

Carbonated Drinks

To the Editor:—I have been told that carbonated soda fountain drinks, pops, and effervescent salts have a detrimental effect upon the membranes of the stomach, causing weakness of that organ with resulting ulcers. Will you kindly inform me what the opinion of medical authorities is on this?

H. W. B., Iowa.

Answer.—Free carbonic acid gas in any kind of a carbonated drink increases the stomach secretion, especially the acid. The use of carbonated drinks constantly in excess, may be a factor in causing ulcer of the stomach. If an ulcer is present, such drinks aggravate the condition and prevent the healing of the ulcer. Such drinks may be used in moderation by normal persons with slight, if any, harm.

Rash on the Face

To the Editor:—A rash appears on my face and hands during cold weather. The rash also appears if cold water is used. It has a burning sensation. What would you recommend?

G. E. B., New York.

Answer.—The skin in different persons varies greatly in its reaction to remedial agents: what will be perfectly soothing to one person may be irritating to another. The skins of many people become irritated by cold weather, cold water or soaps. Toxic substances produced in the body of either food or bacterial origin not infrequently cause rashes of various types. A physician who has had large experience with diseases of the skin should be consulted. He will be able to go into the case in detail and endeavor to determine definitely the cause of the trouble and prescribe for it.

Irregular Teeth

To the Editor:—How can the arch of the lower jaw be expanded so that there will be sufficient room for the first incisor tooth on the left? This tooth is behind the others and is causing the lower teeth to become irregular. This has existed only since last year. Should one of the teeth be removed, or can a brace be used? C. B., South Carolina.

Answer.—It is quite normal for the lower incisor teeth to erupt slightly to the tongue side of the temporary teeth. If the temporary tooth remains in place after its permanent successor has appeared through the gum, it should be removed at once. This reduces the resistance and the pressure of the tongue tends to bring the permanent tooth rapidly into its normal position.

If one permanent incisor is more toward the tongue than the others, it may be necessary to use some sort of appliance to expand the arch until it is large enough for the new tooth to take its place. The condition may improve without assistance between the ages of eight and eleven. In no such case should a lower incisor tooth be removed.

Diet List for Diabetic

To the Editor:—Have you a list of foods that a diabetic should use or should avoid? If so, I should be glad to have such a list. B. G. B., Kansas.

Answer.—A sample list of diabetic foods is not at all an adequate guide for a person with this disease.

The kind and amount of food to be taken must be varied to meet the conditions present in each case.

Some excellent books, however, have been published along this line and are recommended by physicians to their patients as helpful in enabling the diabetic to cooperate in the care of his own case, especially in the matter of preparing foods. The following three books can be recommended, but they are to be used under the direction of the physician in charge of each case.

1. "A Primer for Diabetic Patients," by Dr. Russell M. Wilder and the Misses Foley and Ellithorpe of the Mayo Clinic, published by W. B. Saunders Co., Philadelphia, price $1.50.
2. "Diabetic Manual," by Elliott P. Joslin, M.D., published by Lea & Febiger, Philadelphia, price $2.00.
3. "Diabetes and Its Treatment by Insulin and Diet," by Drs. Petty and Stoner of Philadelphia, published by the F. A. Davis Co., Philadelphia. Price $1.50.

It is of the utmost importance for the person with diabetes to keep in close touch with the physician who is attending him.

Cyst of the Ovary

To the Editor:—If there is no nervous connection between mother and unborn child, then would it be safe for a woman three months pregnant to undergo an operation for cyst of the ovary? What is the cause of a cyst of the ovary?

M. D., Wisconsin.

Answer.—Operations for removal of cysts of the ovary have been safely done on pregnant women. The surgeon will decide if it is safe to defer the operation in any special case until after the child is born. The cause of cyst of the ovary is not known.

Epilepsy

To the Editor:—A young man, epileptic, gets attacks quite often. What would you advise to keep handy for an emergency? H. M. S., Illinois.

Answer.—During the attack, measures should be taken to avoid injury by placing him flat on the floor. His clothes should be loosened about the neck and his tongue protected from injury by placing a tongue depressor, well wrapped with gauze, between his jaws. No medication is indicated during the attack.

Lump in the Breast

To the Editor:—I have often heard that a lump in the breast is an indication of developing cancer. Is there reason for alarm because of this? I have a lump in the right breast that is slightly painful if pressed. I first noticed it several weeks ago. I am forty-two years old and have three children, all of whom I nursed. I have never had any breast trouble.

Is there any authority for the belief that the herb called yarrow is a cure for cancer if tea made from this herb is drunk? I have been told that this is an old-time remedy used by the Indians and is a cure.

Is cancer considered a blood disease?

A. R. M., Wyoming.

Answer.—The appearance of a lump in the breast of any woman past thirty-five should always prompt her to consult a physician. In a large proportion of the cases this lump is not of a serious nature, although sometimes it may not be possible for a physician to be sure of this and in such cases he would advise its removal. It is far better that fifty nonmalignant tumors should be removed from the breasts of women than that one, through failure to remove it, should develop into cancer. It is because so many women have awakened to this fact, have responded by consulting surgeons promptly on discovery of such swellings, and have had them removed, that the early surgical treatment of cancer is much more common and more successful than it was a few years ago. Formerly, even after a radical surgical operation, not more than 25 per cent. of women continued for three years without return of the cancer. Now surgeons report that 75 per cent. of women operated on for this trouble remain free from trouble for three years or more. Such women are regarded as having been cured.

There is no evidence that any herb like yarrow is of the slightest avail in the cure of cancer.

Cancer is not primarily a blood disease at all. It begins as a local trouble, the cause of which is not yet known.

Rheumatism

To the Editor:—I was interested to read the article on rheumatism in a recent issue, and I am writing to ask you a few more questions on the subject. The article said there were in general two kinds of rheumatism—inflammation of the joints and inflammation of the muscles. What are the characteristics of "inflammatory rheumatism," so called? Is it simply a more severe inflammation of the joints or of the muscles, as the case may be? Or has it a different source? Is there any connection between damp weather and rheumatic pains?

C. P., Connecticut.

Answer.—Acute articular rheumatism, or inflammatory rheumatism, is an acute inflammation of the joints, attended with some swelling, great tenderness of the joints, often quite high fever and pain, especially during motion.

A common peculiarity is a tendency of the pain to shift from one joint to another, beginning in the knee or ankle, subsiding in that joint, appearing in another, and in a few days involving several of the joints. The cause is now quite generally believed to be an infection, though often it is not possible to trace the source of the infection and no specific germ has been identified as the constant cause of the trouble. It is quite probable that whatever the germ is it may also have to do with muscular rheumatism, the symptoms of which are quite different.

Cold and damp weather is an important feature in predisposing to these troubles. It is the general opinion that these factors act in this way by lessening the resistance of the tissues to infection.

Hereditary Syphilis

To the Editor:—What can you tell me about the treatment of hereditary syphilis, in cases in which symptoms appear during adolescence?

M. C., Maryland.

Answer.—Hereditary syphilis is generally considered to be more resistant to treatment than acquired syphilis. However, intensive modern treatment will not only clear up the lesions present, but also in many cases will result in a negative blood test (Wassermann) as well.

Kidney Stones

To the Editor:—I would like very much to know if water that has been properly distilled is not better for a person with kidney stones. I also would like to know how water that has been softened with zeolites compares with distilled water.

R. B., Virginia.

Answer.—Since kidney stones vary in their chemical composition no definite statement can be made for all kinds. It is possible that distilled water is to be preferred in most cases. This should be taken in abundance.

Water that has been softened with zeolites still has mineral salts in solution and should be good for uric acid stones. These are rare, however. For the more common stones distilled water would be preferable.

CURRENT HEALTH ITEMS

BEWARE OF THE AUTOMATIC FAUCET

The public drinking cup has disappeared. The bubbling fountain has taken its place. But there are still other and new opportunities for direct transfer of infectious saliva from the lips of diseased persons and carriers to those who are healthy.

Ivan C. Hall and Helen Upton Wing of Cornell University, in the *American Journal of Public Health*, call attention to a possible danger in a type of automatic faucet or tumbler filler often used in restaurants and cafeterias. The one to which they find objection consists of a rubber covered cross bar against which the lips of the glass are pressed, thereby releasing a flow of water into the glass. The removal of the glass stops the flow of water.

If only clean glasses are used there is no objection. But often a customer is observed swallowing the contents of his or her glass at the fountain and refilling it, or coming back from the table for more. It is evident that fresh saliva from the lips of a used glass may be conveyed directly to the next one placed in position and the frequency with which such an apparatus may be used even in a small establishment suggests that infectious diseases may be so transmitted.

EDUCATE IN USE OF LEISURE TIME

We have a large number of young workers who are earning good wages, considering their youth, and who have much leisure time. It is the business of the school to see to it that the pupils, while yet in attendance on school work, are taught how to use such free hours and excess earnings so that their health and moral character may be preserved, says William H. Johnson of the Chicago Normal College, writing of the relation of education to a wise use of leisure, in the *Chicago School Journal*. Professor Johnson says that educators recognize that training for leisure time is their task, but as yet little has been done about it. He asks three questions: 1. What is the usual manner in which most of us use our leisure time? 2. Is leisure time not only often wasted, but worse than wasted by the average person? 3. What percentage of people you know are able to employ their leisure in such a way as either to add to their own satisfaction and genuine pleasure or to make them among the agreeable and useful members of society?

Recent economic and social developments have provided a new problem in the field of education, says Professor Johnson, one which is as yet very little recognized—the need of education for leisure.

WELL-NOURISHED EMPLOYEES KEEP DOWN OVERHEAD

Food, like a woman, may be an influence for good or evil. A good dinner improves a man's temper. A poor one can ruin the best disposition.

Lunch may make or break a man for the rest of the day, says Frank J. Price, Jr., writing in the *American Food Journal*. That is the reason the Prudential Insurance Company spends thousands of dollars in equipment to serve a force of 5,700 people with the midday meal.

The typical office worker's luncheon, Mr. Price points out, is a ham sandwich and a cup of coffee. Too many young business women skimp on their lunches to have extra money for dress. A piece of chocolate cake and an ice cream soda satisfies the craving for food at noon and the headache that makes their notes blur toward the end of the afternoon is laid to overwork.

In an office force of more than 5,000 men and women, the percentage of the minor disturbances resulting from unwise eating may at times constitute a serious interruption in routine. A high average of health is absolutely necessary in the organization where efficiency is maintained at a high standard. Providing a hot nourishing meal at noon is one of the most important phases of the welfare programs now in effect in many of the big progressive business concerns. It has been found to have a beneficial effect on the health of the office force at the Prudential.

The company originally served only hot soup, tea and coffee, so that employees bringing their own lunches might enjoy a hot drink. As the forces grew and the buildings gave more available space, provisions were made to serve a regular meal at midday.

HARNESSING ATHLETICS TO THE EDUCATIONAL WAGON

The education of the whole man—the physical, the social, the esthetic, the religious, the intellectual aspects, each in its appropriate manner—is the vision of Herbert E. Hawkes, dean of Columbia College, Columbia University, in an article in the *Child Health Bulletin*.

This does not mean, says Dean Hawkes, that the college should attempt to segregate these traits from each other, but rather that in the entire scheme of education each of them should have its place.

Dean Hawkes doubts whether it is possible permanently to keep the athletic interests of a large and vigorous college harnessed to the educational wagon, but says that unless the athletics of an institution are conducted on a high level of sportsmanship, by men of character who realize that athletics are a vital though secondary element in an educational institution, they may do more harm than good. An athletic policy which brings about in both the faculty and the athletic people a feeling that they are pulling in opposite directions is all too common in our colleges. It is, of course, inevitable that there will be a few members of any faculty who have a blind spot for athletics, just as some otherwise educated people have a blind spot for religion, or for art. But unless the athletic management also has a blind spot for studies, good character and sportsmanship, no controversy can arise.

There is a difference of opinion as to whether even the most desirable and successful athletic policy brings to a college the kind of students that the college most desires. Of course athletics attract athletes, but a college of athletes who are not primarily students is a damage instead of a blessing. In fact, I am inclined to think that among the elements that go to make the solid reputation of a college, athletic supremacy comes far down on the list in the minds of those, both young and old, whose judgment really counts. This means that the cultivation of athletics in the college should be in the interest of the part that they play in the education of both players and of spectators.